NATIONAL PETROLEUM NEWS

Vol. XVI | CLEVELAND OHIO, October 8, 1924 | No. 41

Ten Million Dollar Display Of Equipment Rewards Visitors To Exposition

By Lawrence E. Smith

STAFF REPRESENTATIVE

TULSA, Oct. 4

ABOUT the hardest thing to do in connection with the second International Petroleum Exposition, showing here at its own grounds from Oct. 2 to 11, is to find one word or phrase which will adequately describe the exhibits by oil companies and allied manufacturing and supply companies.

For it is a lavish and colossal display.

Some hasty notations made on the opening day were consolidated and the phrase, "Ten Million Dollar Show," was coined. It was haphazardly done, however, and it would require months to arrive at the true figure.

Each company has to consider as its part of the exposition, if values are taken into account, the worth of its display, and the cost of displaying same which latter takes in all those items over which the auditing departments will wrestle for some time. So, it may be ten million and it may be vastly more, but surely not much less.

From Foundation Up

This show begins at the very ground plans of the industry and takes the visitor to the jumping off place, which is the point where petroleum and its derivatives enter into the utilization phase. There are a number of wells being drilled—and let's hope they don't get gas while they are at it—and into their drilling there is put everything that is made for the purpose of drilling a well.

Some are rotary and some are cable tools, or the percussion system, while in a display of miniatures, a German, Alfred Wirth, is showing rotary, cable tool, combination rigs of the two systems, and core drills of form and variety not seen on this continent.

Building after building is crowded full of the thousand forms of equipment that goes into the drilling of a well and the operation of it after it is completed, the apparatus and the machinery that enables the refinement of the crude oil and the measuring and vehicular trappings that speed it to the user.

And there they are. Some of the companies date back to the beginning of the industry in the United States while some are extremely young. Age is sometimes synonymous with bigness, and again sometimes it isn't. But, young or old, large or small, they spent weeks and even months in planning their participation in the Exposition and their displays are calculated to get the maximum in attention.

The way this Exposition is going over, one wonders what it would be like if the oil industry were not now in a slump. Unquestionably the attendance has been greatly reduced, but at that the first day's paid admissions numbered in excess of 4000 and today's crowd looked like fully double that. In the vicinity of Tulsa, oil companies are making it possible for employes to attend for at least one day, but further away, where a man would be compelled to miss two days' work, smaller delegations are coming, the companies designating certain men for the trip.

From states outside the Mid-Continent territory, attendance is reduced still more and is confined, as it generally is at any convention in the industry, to company executives and the higher-up operating men.

These make a large crowd, though, and the number of men from the east will be much greater during the second week, according to reports of a number of companies, as many waited for the opening of the Congress with its attendant addresses on a variety of subjects of direct application to the industry.

Considering the congestion of all sorts of traffic, the affair is being handled in an excellent manner. There were impressed into service a large number of "jitneys" over the number which ordinarily ply the avenues of Tulsa. It is a great town for that form of transportation and exposition visitors find themselves whisked about in smart fashion to and from the grounds. Hotel accommodations are inadequate, although not greatly so, and the committee in charge of housing, in most thoroughgoing fashion, called upon the residents to help take care of the folks. This, like the transportation, is satisfying the visitors.

Seeing How Others Do It

Basically, the idea of the exposition appears to have sprung up at about the time the industry needed it. Oil men are acquiring the habit more and more,

THE contribution of National Petroleum News to the interest of visitors and exhibitors at the second International Petroleum Exposition at Tulsa, Oct. 2-11, is a daily paper, "The Exposition News," gotten out by the members of its staff covering the big Tulsa show.

Bright and early the first day, the first edition, filled with information concerning the exhibits, personal news of men in attendance, concise accounts of the principal events and a sprinkling of fun was available to all upon request.

After the first day requests began to come in for extra copies "to send back home," and admonitions to see that the "Exposition News" was issued every day.

National Petroleum News is also maintaining a booth in a central location, where visitors find comfortable chairs to rest in and members of its staff "to talk things over with."

as the complexities and ramifications of their work enlarge, of traveling about the country extensively to see what practices can be adapted from elsewhere to meet their needs.

For example, the writer this week met an oil man from an eastern state who was making a long and tedious journey to an obscure town in Texas to see first hand an interesting experiment which he thought might throw some light upon his own problem.

Similarly, equipment in use in California, can be brought to the notice of a Mid-Continent man and vice-versa by this expositional plan of showing it in a central place. The industry has progressed to the point where more light is required and the efforts of the manufacturers to meet every new requirement are brought forcibly to the attention of all.

While all the accoutrements and investitures of such occasion on are present, together with a large number that have been thought up expressly for this exposition, such as princesses from the several oil producing states, band concerts and a show of some kind that this writer has not had the time to witness as yet, it is the exhibitors' show.

The Exhibitors' Show

They are paying the bill for the privilege of showing the oil man what they can do to help him. That bill is a substantial one and it will be difficult for anyone to say just when he has gotten his money back in increased business.

But, just as a supply salesman will ride all day and all night in a Ford to compete on a line of fittings, so every supply company will feel forlorn and lost if it isn't displaying its effort to the best advantage and from a moral and cultural standpoint, they are cheerfully inclined to occasions like the present one.

Going back into history, it will be recalled that Tulsa undertook the job of holding a petroleum exposition and a congress last year and at its conclusion we referred in moving terms to its success, which we said at that time was something like howling, also. Well, that characterization was wrong, from the present aspect and presentments of the scene. Compared to the exposition now going on, last year's was about a falsetto whisper, if the term howling is to be used this year.

There isn't a man here who will go away feeling that he has seen everything in a comprehending way. Nor is any man expected to. It is merely hoped that he will make a thorough investigation into and study of the equipments, accoutrements and devices that fit into his sphere of petroleum endeavor, and will go away a better and wiser man, Of course, he may do some sightseeing here and yon at the exhibits which are foreign to his work, but he will not take it all away in his mind.

The Number of Exhibitors

The reason is that there are 459 exhibitors and they are doing everything under the sun and are displaying every product of engineering and factory skill that goes into the oil indsutry. If a visitor undertook to average 15 minutes with each exhibitor—and let us imagine that he set out to do that in order to go away with his brain reeling from too much information—he would need something like 115 hours and that would keep him on the move for better than 12 hours each day of the life of the exposition. There isn't the mortal man that could do it.

So, to save his time, let us conceive that he will put in his time at the places that exhibit what he is interested in. It's not hard to conceive, for that is what he is doing.

There have appeared at this exposition several of the attorneys-general of the states. Several months ago they formed themselves into an association whose principles revolve around the idea that they were to enforce better the laws of the state. Shortly thereafter their train of cooperative vigilance backed onto the petroleum siding and it has been standing there ever since.

Several of these gentlemen are in Tulsa, gaining, as the saying is, first-hand information concerning the industry they have so earnestly pecked at for the past year. Their visit is both a good thing and a bad thing.

It is a good thing because they may somewhere along the line arrive at the opinion that the petroleum industry really has its elements of competition. They will see one company entering wholeheartedly into the business of displaying a rotary rig which it enthusiastically proclaims to be the best on the market and another nearby equally eloquent about its equipment for the same job.

They will see one refining company stating by placard and speech that its products are the ones which give the most mileage and the least trouble and another making the same identical claims.

It is a bad thing because this lavish display may indicate to the commonwealth attorneys that the oil industtry and its affiliated supply industries are fairly reeking with money and that they might well stop taking in any more for quite a while in order that quite a lot of talking could be done on how they were stopped.

Atlas Supply Co. Exhibits

TULSA, Oct. 4.—The Atlas Supply Co., in its well-located space in the Kansas building, is showing a cut section of the Union steam pump, a new product which is the feature of its exhibit. In addition to the pump, the company is showing a full line of general oil field supplies, including valves, belting, and special equipment for refineries and gasoline plants.

Company representatives at the exposition are J. M. McLain, from the sales department of the Muskogee general office, and R. E. Howe, Tulsa sales representative. Thomas F. Boyle, of the Williams Valve Co., Cincinnati, represents that company.

Crude Price Changes

Oct. 2.—Joseph Seep Purchasing Agency, reduced Corning crude 15 cents. New prices is $1.50 per barrel. Last previous reduction Sept. 6.

Oct. 3.—Humble Oil & Refining Co. posted Moran, and Wichita and Archer county crudes on a gravity schedule. This schedule conforms to that posted by the Prairie Oil & Gas Co. Sept. 27 in Mid-Continent and north Texas fields. Humble's new prices in the three fields are: below 30 gravity, 75 cents; 30 to 32.9, 90 cents; 33 to 35.9, $1.10; 36 and above, $1.25.

Oct. 4.—Magnolia Petroleum Co. revised its crude schedule in Oklahoma, Kansas and Texas where it purchases, and reduced grades below 33 gravity from 15 to 20 cents. New prices are: below 30 gravity, 75 cents; 30 to 32.9, 90 cents; 33 and above, $1.25.

Oct. 6.—Standard Oil Co. of Louisiana regraded Smackover crude, eliminating two grades by establishing 25 and above grade and below 25. The former grade is posted at 95 cents and the latter grade at 85 cents. An anomalous situation existed previously when below 24 gravity crude in the Smackover field was selling at 85 cents, while crude between 24 and 26 gravity sold for 80 and 70 cents.

The new schedule was met by the Louisiana Oil Refining Corp. The Texas Co. first reduced the Smackover gravity schedule to two grades, when on Oct. 3 it established 26 and above gravity at 95 cents and below 26 gravity at 85 cents.

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THIS WEEK'S OIL NEWS SUMMARIZED

Crude Production By Districts

Oklahoma

	Oct. 4	Sept. 27
Bristow	47,500	47,550
Burbank	76,180	77,270
Cushing	23,500	23,750
Cromwell	40,650	42,100
Healdton	15,900	15,800
Hewitt	19,000	19,100
Osage, except Burbank	52,400	52,650
Papoose	15,520	15,450
Stroud	11,760	14,260
Tonkawa	105,885	108,500
Wewoka	6,755	6,900
Other Fields	117,000	117,650
Total	532,050	540,980
Decrease		8,930

Kansas

	Oct. 4	Sept. 27
Augusta, Douglass	3,700	3,750
Blankenship District	2,760	2,770
Elbing, Peabody	7,600	7,650
El Dorado	16,100	16,225
Fox, Bush	3,100	3,110
Greenwood county	26,250	26,500
Other Fields	25,000	25,100
Total	84,510	85,105
Decrease		595

Rocky Mountain District

	Oct. 4	Sept. 27
Salt Creek	71,925	68,240
Teapot	2,490	2,370
Big Muddy	3,780	3,780
Grass Creek	3,185	3,180
Elk Basin	925	930
Greybull, etc.	150	110
Rock River	3,350	3,350
Lance Creek	1,775	1,770
Poison Spider	870	710
Osage	335	330
Hamilton Dome	570	570
Notches	375	30
Lander	415	210
Pilot Butte	90	60
Lost Soldier	4,900	4,900
Ferris	120	110
Rex Lake	145	150
Craig	1,775	1,432
Cat Creek	3,765	4,017
Kevin, Sunburst	5,120	7,372
Miscellaneous	625	638
Total	107,685	104,259
Increase		3,426

Marketing

(Marketing News on pp. 89-102)

Mid-Continent

Prices of gasoline easier but volume of trade holds up; kerosene steady. Distillates higher. Fuel oil has softened slightly. Natural gasoline weaker. Cylinder stocks demand good. Neutrals quiet and soft. Spot wax slower.

Export

Gasoline offered more freely at lower prices. Kerosene demand improving, price firm. Gas oil demand improving. Bunker oil steady. Cylinder stocks trade holding up with western stocks offered more freely. Waxes ¼ cent cheaper.

Chicago

Gasoline prices fairly steady although jobbers buy less in open market. Kerosene stronger. Distillate and gas oil firm. Fuel easier at end of week.

California

Casinghead gasoline stronger. Other gasoline weak. Fuel threatens to back up as big oil companies stop buying from small refineries. Export demand may relieve this situation within month.

Pennsylvania

Cylinder stocks and wax firm. Neutrals improving and slightly stronger. Kerosene and fuel oil steady to firm. Gasoline trade of good volume but prices low in relation to cost of crude oil due to low tank wagon markets.

North Texas

Fuel oil strong. Gas oil and distillates improved. Motor gasoline easier, high gravity grades firm. Kerosene strong.

Crude Production By Districts

California

	Oct. 4	Sept. 27
Long Beach	142,000	144,000
Santa Fe Springs	54,000	55,000
Torrance	53,000	54,000
Huntington Beach	40,000	39,500
Dominguez	36,000	32,000
Rest of state	287,500	289,300
Total	612,500	613,800
Decrease		1,300

Texas and Coastal Louisiana

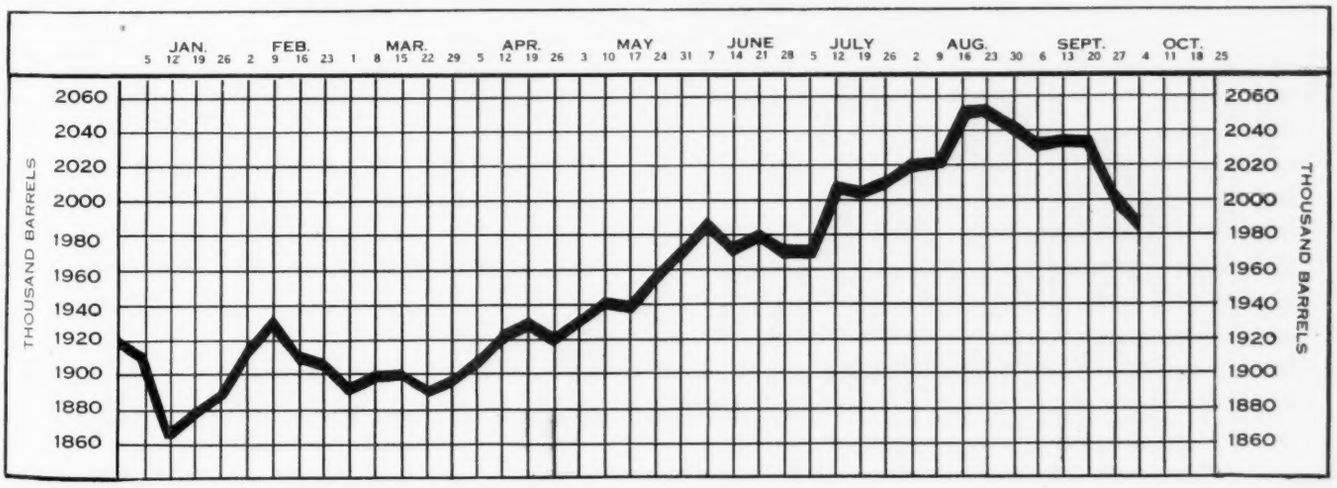
	Oct. 4	Sept. 27
Mexia, Currie, Richland	53,100	51,050
Corsicana, Powell	76,800	77,600
Wichita Falls district	72,735	73,540
Ranger Lime	31,415	32,020
Ranger Sand	5,430	8,925
West Texas, Reagan and Mitchell counties	7,385	7,145
Panhandle	1,350	1,130
San Antonio, Luling, and Mirando	46,100	46,100
Coastal Texas	81,235	71,890
Coastal Louisiana	8,690	9,395
Total	375,505	379,095
Decrease		3,590

Louisiana-Arkansas

	Oct. 4	Sept. 27
Caddo, light	9,670	9,840
Caddo, heavy	1,950	2,000
Red River, De Soto	5,300	5,380
Haynesville	16,795	16,900
Homer	7,300	7,250
Cotton Valley	7,200	6,900
Bellevue	4,250	4,500
El Dorado	11,300	11,200
Smackover, light	34,850	34,910
Smackover, heavy	72,650	72,805
Stephens	1,900	2,000
Nevada county	1,250	1,300
Total	174,415	175,015
Decrease		600

Eastern	103,500	104,000
Total U. S.	**1,990,165**	**2,002,254**
Decrease		**12,089**

Watch The Trend Of The Week's Production



TEN MILLION DOLLAR EQUIPMENT DISPLAY

Everything For Drilling A Well Is Shown; Most Of It In Actual Operation

By A. F. Hinton
STAFF REPRESENTATIVE

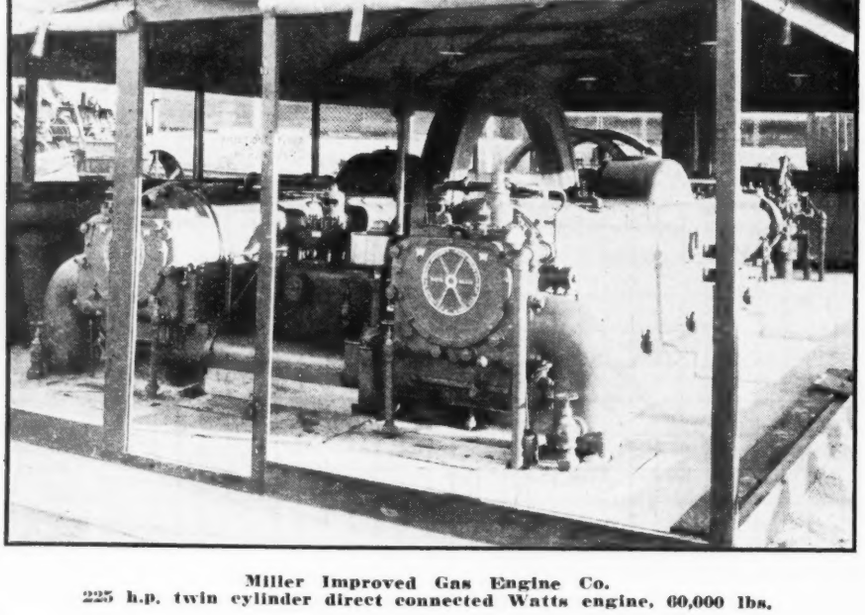
TULSA, Oct. 4

THE open air exhibits occupying the east end of the grounds, east of Illinois av. and south of Indiana av., is a hive of motion where the visitor can see in a comparatively small space all the activities of an oil field proceeding under full steam ahead. Every article used in drilling and in production can be found on exhibit somewhere in this space, with most of it in use under conditions closely stimulating actual field operation.

Two wells actually are drilling in this part of the grounds, with another fully rigged up and equipped for drilling with the rotary table going "round and round" but not actually making hole. One of the drilling wells is being put down with electric power, while the other, the famous Chicken farm No. 2, is depending on the old reliable steam engine. Both are standard rigs, and are still spudding as we go to press. Scout reports are to the effect, however, that they will hang on to the beam in a day or two, and thenceforth for the duration of the exposition will make as much hole as possible.

The open air exhibits include giant gas engines and compressors, running steadily and noiselessly under their own power, tanks of all kinds, power pumping units, pumping jacks, derricks, pipe, tractors, winches, and so on through the list of oil country products. In one place, the Hughes Tool Co. is showing its famous rock bit actually drilling holes in a block of solid rock, a demonstration that has been the center of an interested throng of spectators ever since the show opened. The Marion Machine, Foundry & Supply Co., besides showing one of its well known 25 h.p. gas engines in operation, is showing a series of beautiful models of derricks and pumping powers, besides a full line of steel bull wheels and other steel products.

STAFF men from National Petroleum News who are participating in its exposition feature of publishing a daily newspaper of events going on within the grounds, and covering the news of the big show for the regular issues of N. P. N., and greeting exposition visitors are W. C. Platt, publisher, Lawrence E. Smith and Howard Markt, from its Cleveland general office; W. H. Little, J. C. Chatfield, A. F. Hinton and John W. Schott from its Tulsa office and Paul Wagner, from its Houston office.



Miller Improved Gas Engine Co.
225 h.p. twin cylinder direct connected Watts engine, 60,000 lbs.

Drake Well Draws Interest

The reproduction of the Drake well, with its "aged in the wood" derrick and ancient tools, engine and boiler, has been a constant source of interest to the crowds, standing as it does, a silent marker by which one may judge of the progress that has been made in 65 years in the search for oil. Hemmed in on all sides by towering modern derricks with every modern item of equipment known to the industry, the Drake well stands there unruffled and unworried, content to rest on its laurels as the forerunner of everything else on the grounds.

Entering the grounds through the east entrance, the prospective visitor passes under two towering steel derricks erected on either side of Peoria av. by the International Derrick & Equipment Co., of Columbus, O., supporting on arched electric sign telling the world that here one enters the domain of King Petroleum. Owing to the difference in elevation between the two sides of the street, derricks of different heights were placed so that their tops are about on a level, one being an 84-foot and the other 72-foot, both built of galvanized steel angle irons.

The only argument against entering the grounds from this entrance is that one is likely not to get to the other end at all, as the open air exhibits present such a great variety of interesting things that the visitor is tempted to remain among them to the exclusion of the remainder of the exposition.

In fact, it requires several hours to read the signs alone, as every derrick is plastered with announcements carrying the name of some article used on it and the company supplying it. In this particular, however, D. D. Wertzberger had the bulge on most everybody, as he built two of the derricks and placed gigantic red "W's" high up on them where they hit every visitor right in the eye.

Wood And Steel Derricks

This is the first public showing of Wertzberger derricks and they have attracted a great deal of interest as being the latest development in combining wood and steel to make a derrick that will meet the requirements of the producer at the same time satisfying the driller.

The towering (an overworked word in trying to describe these exhibits) Wertzberger derrick 122½ feet high offsetting the Drake well to the north and occupying Lot A of the open air ex-

TEN MILLION DOLLAR EQUIPMENT DISPLAY

hibit space is equipped with a complete Dreadnaught rotary outfit, manufactured and displayed by the Beaumont Iron Works. While not actually drilling, the machinery is so arranged that the rotary table is shown revolving as in actual operation and everything is in place just as it would be in actual field work. Dreadnaught mud hogs stand ready to circulate the mud and water when needed. On the derrick floor are displayed a new type Dreadnaught traveling block, weighing 6700 pounds and standing as tall as an average man, and a Dreadnaught 5-sheave crown block.

The Bradford Rig & Reel Co. supplied the rig irons for this outfit, and is displaying also its steel bull wheels, steel calf wheels, and steel tug wheels.

W. C. Taylor, rotary man for Frick-Reid Supply Co., which distributes Dreadnaught products, is on the derrick floor to explain the machinery to visitors. L. J. Black, Beaumont, Tex., president of the Beaumont Iron Works, also is with the exhibit, accompanied by D. A. Stewart, general superintendent, and N. P. Erwin, sales manager.

National's Space Biggest

The distinction of showing its equipment and specialties in the largest space goes to the National Supply Co. Indoor and outdoor, this organization, together with its affiliated companies, occupies such space that it alone constitutes a sizeable tour.

All told, the company is showing in 3500 square feet of outdoor space and 2200 square feet of indoor space.

Outside the company is showing its Ideal Universal rotary drilling machine and its Ideal No. 12 draw works. This is the first time these have been shown at any exposition or convention and they are being operated by Ideal Ajax twin-cylinder drilling engine with the new boiler, the National California standard, which has 185 pounds working pressure and is of 75 horse power. This is an A. S. M. E. code boiler and is being shown for the first time.

A Superior direct-driven gas engine compressor with Ingersoll-Rand cylinders is new and shown for the first time.

Always a fruitful topic of conversation is the depth which can be drilled with a drilling machine. National is exhibiting its No. 3 portable which is designed to go 4000 feet. It is being operated by a Superior 35 horse power drilling engine.

Inside the Kansas building, the National is featuring pumping equipment. Ideal reduction gear is operating a No. 6 National power which in turn is operating National 12-C band wheel pumping power.

Alfred Wirth & Co. of Erkelenz, Rhineland, Germany
Exhibit of German drilling equipment. Alfred Wirth, Pres., in shirt sleeves

Other exhibits affiliated with National are by the John A. Roebling Sons' Co., wire lines; Manhattan Rubber Co. and Columbia Rope Co.

Demonstrations Of Equipment

All machinery is being demonstrated by National Supply Co. and Union Tool Co. engineers. Those present are: M. T. Archer, chief engineer, National; Edward Timbs, chief engineer, Union Tool; R. F. Hill, district engineer, National; and C. A. McCollum, Roscoe Ayers, W. B. Stamford, Leon Humphreys, Merle Cribbs, Joseph R. Mahan and Groyer C. Luker, National.

Executives from the National included: James H. Barr, chairman of the board of directors; John Wilson, president; John A. Geismar, vice-president and general manager; G. F. Mahan, vice-president; C. R. Clapp, secretary-treasurer; John A. Glass, works manager, H. G. Trimble, manager of sales, C. V. Carr, assistant manager of sales and A. P. Colby, advertising manager.

National division managers present are: C. C. Cartwright, Texas; O. T. Dawson, Oklahoma and Ira G. Wetherell, Kansas, Wyoming and Montana division. A. W. Neal, W. E. Palmer and D. G. Mann, district managers, are present.

D. S. Faulkner, president of the Union Tool Co. is here as are Bryant Dedman, manager of the Chicago plant and E. H. Williams, manager of the Carnegie plant.

L. V. Boggs, of New York, who is manager of foreign sales of the National Supply Corp, is here.

Motion is the keynote of the Oil Well Supply Co's. exhibit this year. Located in Nos. 4-11 Kentucky building and in an open space nearby, the company has brought to the Exposition grounds its well known line of field euipment and, what is of more interest has it in operation.

Several months ago the company started distribution to the industry of its two-cycle gas engine, but showing of it was reserved for the Exposition. This is all semisteel, 30 horse power, and is described as being "very fast."

Another engine which may be called new, in that it is being exhibited here for the first time, is the out-board bearing, single cylinder steam drilling engine, which also was placed on the market some time ago.

Then there are the other well known oil country equipments. There is the Black Bear gas engine, the belt-driven mud-hog pump, the Imperial extra heavy high duty rotary, a drilling machine installed and in operation, and a 70 horse power A. S. M. E. code boiler under steam and driving the rotary and drilling engine.

Fishing Tools Displayed

There is also a complete display of packers, cable tools and fishing tools.

In conjunction with the Oil Well, the Pyle National Co. is showing generators; the M. B. Skinner Co. is exhibit-

ing clamps and A. Leschen & Son are showing wire lines for every oil field purpose.

In the Scientific & Technical building the Oil Well is exhibiting a string of tools which dates back to about the time of the Drake well.

Getting an exhibit of this size in place is no task to be tossed off lightly before breakfast, as George A. Gage, Tulsa, will testify. Mr. Gage was placed in charge of the exhibits and the three weeks before the opening day were pretty busy.

The following Oil Well representatives or "visitors" outside the Tulsa offices are attending the exposition or have put in an appearance. Some were visitors for only a day.

Pittsburgh Office

D. J. Brown, vice president and general manager; S. Clark Reed, vice president in charge of branch stores; W. B. Glover, manager of sales; W. W. Anderson, manager export department; J. J. Kirby, manager 21st street works; "Bob" Lemen, manager woodwork department, Parkersburg; E. E. Greve, mechanical engineer; R. H. Tomson, traffic manager. H. H. James, manager Oil City, Mr. Ockenden, manager London office: A. F. Millan, manager Mexican branch; H. C. Burns, treasurer; H. J. DeRousse, tool department; William L. Tebbs.

North Texas District

William Miskimmins; S. P. Tarbox; I. A. McCaslin; J. A. Shaw; K. B. Winstead; F. A. Kingery; J. S. Hale; W. B. Will; R. E. Lee; W. H. Thompson sales manager; P. E. McClanahan.

South Texas District

John M. Post, district manager; R. H. Christy, assistant district manager, Houston; F. L. Wiegand, Shreveport, assistant district manager; H. J. Wells, manager, San Antonio; E. E. Tyer, Shreveport.

Rocky Mountain District

J. J. Durst, district manager; Mr. McShane, manager, Casper, Wyo.; Mr. Hamilton; William E. Egan, Denver.

Oklahoma

B. L. Harris, manager Bartlesville store; O. L. Ross, manager Blackwell store; J. C. Harris, manager Bristow store; N. D. Nichols, manager Cleveland store; R. C. Fetherlyn, manager Drumwright district; H. B. Dodd, manager Garber store; W. H. Coffman, manager Coweta store; C. L. Forcum, manager Oilton store; J. W. Edwards, manager Okemah store; G. M. Carter, manager Okmulgee store; N. B. Heywood, manager Pawhuska store; Harold Robinson, manager Ponca City store; George H. Saunders, manager Quay store; R. Q. Lane, manager Shidler store; R. V. Noble, manager Stroud store; M. C. Yeaman, manager Tonkawa store; W. A. Drake, manager Holdenville district; Mark Barkhurst, manager Webb City; A. K. Herbert, manager Wynona store; F. A. Ford, field salesman, Okemah; F. R. Gunn, field salesman, Wewoka; C. B. Martin, field salesman, Tonkawa; Jonathon R. Riley, field salesman, Ponca City; R. L. Ruhlman, field salesman, Okmulgee; V. J. Waters, field salesman, Shidler; C. V. Small, field salesman, Bristow; C. E. Meyers, tool salesman, Bartlesville.

John B. Means

The Reigning Monarch At The Expos'tion

Staff Special

TULSA, Oct. 4.—John B. Means, vice president of the Humphreys Petroleum Co., is reigning over the second annual International Petroleum Congress as King Petroleum. The new king mounted his throne at 10 o'clock Thursday morning and drove in state to the exposition grounds at the head of a parade of floats carrying the 11 princesses of oil producing states. On his arrival at the exposition gates they were officially thrown open to the public for the first time.

In addition to his oil interests, Mr. Means is an attorney of note in the Mid-Continent. He has been associated with N. J. Gubser in the law firm of Gubser & Means for several years. The firm has achieved prominence in a number of legal battles arising over the dollar surrender clause in oil and gas leases.

Mr. Means and his wife have entertained royally the visiting young ladies who have come to the exposition as the fairest in the 11 oil producing states.

Kansas

Carl Foley, manager central Kansas; R. G. Gordon, tool salesman, Eureka; C. V. Stewart, manager, Madison store; T. E. Dawson, field salesman, Madison; Hugh Hale, manager Eldorado store; Frank Hollmann, manager Peabody store; G. R. Emerick, manager Winfield store; E. G. Horner, manager Winfield store; E. F. Carter, field salesman, Eureka; D. K. Thompson, field salesman, Eldorado; O. M. Deffibaugh, manager Caney store; M. B. Thompson, manager Chanute store.

Kansas City

Arthur Clifford; Mr. Gold; Mr. Chambers; Mr. Krisl.

Lucey Exhibit

The Lucey Manufacturing Co. is occupying space 15 in the Ohio building, where a great deal of heavy machinery of all kinds is on exhibition. The Lucey exhibit is featuring improved models of its twin engine, an improved swivel and crown block with Timken bearings, and a complete line of Lucey specialties. It is also showing a complete model rotary derrick with full euipment which is a marvel of beautiful workmanship and accuracy of construction.

F. E. Bernsen, vice-president, of Tulsa, is in charge of the exhibit. With him are H. H. Harris, Chattanooga, chief engineer; B. B. Lacy, superintendent of the Turbolite department, Houston; Hugh B. Hodges, engineer, Chattanooga; R. J. Miller, salesman, Houston; J. L. Penny and W. H. Robinson, salesmen, both of Tulsa.

Republic Supply Exhibit

The Republic Supply Co. is featuring the S. M. Jones Acme engine, Republic Rubber Co. belting, Republic iron and steel pipe, and a variety of oil country supplies of all kinds. The company's exhibit is located at 19-20 Kansas building, at the east end of the center row of booths.

Republic men from widespread points have been assembled in Tulsa for the Exposition, and are spending most of their time showing their own company's wares and looking over the exhibits of their competitors. J. H. Brooks, district manager, J. C. Underwood, sales manager, and D. F. McMullen, city salesman, all of Tulsa, installed the exhibit and are in charge of the booth. Among visiting men are E. C. Stough, manager, Beggs, Okla.; L. E. Browning, Youngstown, O., representative of the Republic Rubber Co.; E. M. Koonsman, and

TEN MILLION DOLLAR EQUIPMENT DISPLAY

J. J. Osterman. The two last named are in charge of the demonstration of the Moody automatic spider, which is in display in the Republic's booth.

John T. Crotty, president, Roy Loucks, purchasing agent, and A. B. Judd, secretary, all of Houston, will be at the Exposition next week, as will Bob Cole, Wichita Falls and Warren Gray, Shreveport, both district managers.

Continental Supply Co.

Headed by F. R. Purnell, president and William K. Hughes, managing vice-president, the Continental Supply Co. which is the distributing company for a large number of affiliated companies, held open house at its exposition space in the Ohio building.

Mr. Purnell is also a vice-president of the Youngstown Sheet & Tube Co. and from this company also came W. E. Morris, treasurer; A. E. Corey, sales manager and Walter Watson, assistant sales manager, A. W. Thompson, assistant to William K. Hughes, was one of the first on the ground and had charge of preparing the exhibit.

Companies affiliated with the Continental or whose products it distributes and sharing in the exhibit are the Titusville Iron Works, Titusville Forge Co., Youngstown Sheet & Tube Co., New Bedford Cordage Co., Tnemec Paint Co., Gardner Pump Co., Ohio Injector Co., Jefferson Union Co., Westcott Valve Co. and Gray Tool Co., of Houston, Tex.

Heavier equipment exhibited includes an Acme steam engine, 12x12, a Titusville Iron Works product and the new Tico engine, which has been before the industry for several months but has not heretofore been exhibited. A large size spiral drill stem, which has been on the market under the name of the Nebergall stem for the past two years, is shown by the Titusville Forge Co. and distributed by the Continental.

Along with the exposition, the Continental took occasion to call a meeting of district managers, most of whom were to appear on Monday and Tuesday following the opening of the show. A number of assistant district managers also were to attend.

Frick-Reid Supply Co.

The outstanding feature of the Frick-Reid exhibit is a 20-foot Reid steel bandwheel power in operation. The power is erected on a base eight feet high allowing visitors to walk under the wheel and gain a close view of its improved oiling system and dust-proof bearings. The power is connected by rod line to semaphore signals on the side of the building which never fails to attract attention.

The display also includes a gas drilling engine with cut away cylinder exposing the working parts. The engine is motor driven. The company's PG power is displayed for the first time. This is a geared type, underpull power so arranged that it may be converted into the standard Reid band wheel power.

Products of the Axelson Machine Co. are elaborately displayed with particular interest shown in the "six by seven top collar both end" Axelson pump.

National Transit Pump & Machine Co. products came in for much attention, especially among pipe line representatives who are particularly interested in the 5 by 12 Texas type power pump which is in operation in the booth.

The balance of the space in the Frick-Reid building is occupied by prominent displays of Whitlock cordage, Roebling wire products, Rossendale-Reddaway belting, Jones & Laughlin tubular goods and Carbic generators. The Beaumont Iron Works' 27-inch rotary with three speed draw works is shown in actual operation on a well in the grounds. This rotary includes for the first time a new design mud pump, its feature being a one-piece water end.

The building occupied by the Frick-Reid company, and the exhibits were designed and constructed by the machinery department of the company under supervision of O. C. Staples and Norman M. Hulings.

A large number of Frick-Reid officials and men as well as representatives of associated companies are being entertained at the exposition. The following are here from Pittsburgh:

M. L. Moore, vice president-treasurer; Richard Frick, son of W. E. Frick, president; F. M. Kreible, purchaser & Lindsay.

W. O. Platt, president Joseph Reid Gas Engine Co. with Herbert Hileman, assistant sales manager and John Reid, vice president of the same company, are here from Oil City. S. R. Shoup, sales manager of the Joseph Reid Gas Engine Co. is here from Los Angeles.

Lewis Whitlock of New York and Mr. Brown of Kansas City are representing Whitlock Cordage Co. The Beaumont Iron Works men are L. J. Black, president; N. P. Irwin, sales manager and B. A. Stewart, plant superintendent. Lee McNally, district manager of the Rossendale-Reddaway Belting Co. represents his company, assisted by Salesmen Chamberlain, Thornburg and Sharff.

The Ratigan grip is being demonstrated by J. P. Ratigan of Los Angeles, assisted by Frank McLain of Dallas. The Axelson Machine Co. sent Jewel Axelson and Charles Wagner from Los Angeles, Mr. Brown of El Dorado, Ark. and Mr. Hammett of Houston to the exposition. H. W. Plattenberg and H. T. Walker are Tulsa representatives.

The following Frick-Reid district managers are in Tulsa for the exposition:

A. I. Brainard, Houston; V. V. McGrew, El Dorado, Ark.; W. T. Kaiser, El Dorado, Kan.; B. E. Moreheart, Cisco, Tex.; Carl Swindler, Wichita Falls, Tex.; Harley Standley, Ardmore; George Paine, Casper.

The following managers are also with the exhibit:

O. W. Dutton, Drumwright; L. J. Davis, Tonkawa; John Lyle, Wewoka; A. A. Hopper, Bristow; Ed. D. Smith, Cleveland; Owen Thomas, Shreveport; U. G. White, Healdton; E. H. Ross, Hominy; H. H. Foss, Schilder; John Gwin, Okemah; H. L. Wilkins, Okmulgee; Joseph Boggs, Smackover; Herbert Mobley, Gridley, Kan.; Mr. Connelly, El Dorado, Ark.; A. F. Stadler, Wichita Falls; Mr. Kinsey, Luling, Tex.; H. D. Strong, Covington, Okla.

Three Old-Timers Have Adjoining Booths

TULSA, Oct. 4.—Three of the oldest concerns in their respective lines are exhibiting their wares adjacent to each other in booths 25 to 28, Kansas building, and, although maintaining separate exhibits, are conducted by reason of the fact that one of them is distributor of the products of the other two. They are the Bovaird Supply Co., Spang-Chalfant Co., and Hazard Manufacturing Co., three names that have been connected with the oil industry since its earliest days.

F. Charles Shugert (Shug), Tulsa office manager for Bovaird, is in charge of the exhibit, assisted by George Krell, patentee of the Bovaird grip elevator and spiders for casing and tubing, which are being featured.

Spang-Chalfant Co., of Etna, Pa., is one of the oldest manufacturers of oil well casing, tubing and line pipe now in business. Its products are distributed in the Mid-Continent by the Bovaird Supply Co. It is represented at the Exposition by J. D. Hardcastle, sales manager, and Ed Seaman both of the St. Louis office.

The Hazard Manufacturing Co., of Wilkes-Barre, Pa., has been making rope since 1841, and has been supplying the oil industry with cordage since oil was discovered. It is displaying a full line of Hazard wire rope drilling lines, sand lines, and casing lines, and has its lines in actual operation on the grounds on the Chicken Farm well. H. B. Troutman, of Tulsa, Mid-Continent representative, and Bill Hart, of Chicago, south-western representative, are with the exhibit.

TEN MILLION DOLLAR EQUIPMENT DISPLAY

Educational Displays At Exposition Cover Many Phases Of Oil Industry

By Paul Wagner

STAFF REPRESENTATIVE

TULSA, Oct. 4

"AH, HA," I cried as I stumbled across a Jurassic Brachiapod on entering the scientific and technical exhibition in the Wyoming building at the International Petroleum Exposition,—"Here I am at last."

I say this Brachiapod was of Jurassic age advisedly, for after all I am only a layman, incapable of telling its age by examination of the teeth under a microscope, and having no technical publications readily at hand for reference.

But stumbling over the Brachiapod whatever discouragement that might have been calculated to bring up in the form of reaction, was only an incident of identifying character. The genealogy of its minute forebears was not readily apparent, and it was with a sense of gratification that I found the exhibits in the Wyoming building of widespread and non-technical as well as scientific interest.

Seriously, the visitor to the educational part of the exposition, which is embraced in the various phases of the scientific and technical exhibits, has in place for him an important function of petroleum's annual show at Tulsa.

Model Gasoline Plant

The Association of Natural Gasoline Manufacturers, whose exhibit is in general charge of A. V. Bourque, secretary, is built around the showing of a model gasoline plant system, which carries the visitor through the various stages of manufacture from the casing-head to the finished and marketed product.

Various water, steam, gas and gasoline lines are indicated by distinguishing colors. Beginning with the well and carried forward the gas is shown moving through a meter that registers pressure and volume before going to the field "scrubber." It is then shown on its way through the compressor station, where 2 Clark, 2 Bessemer and 2 C. & G. Cooper miniature compressor models are utilized.

The auxiliary room contains a Western gas engine model, Gardner compressor and Ingersoll Rand compressor. The gas is then shown on its way through a second "scrubber" and into the absorption tower, thence through a second tower and "scrubber" with regulator keeping the oil level at its proper place in the towers.

From the last "scrubber" the process is carried through Braun heat exchanger and then into coils for condensing of the raw material into gasoline; thence from coils to back pressure tank, run tank and bubble tower.

The product is finally shown going from steam still to storage and finally to General American tank cars for movement to distributing centers. On the tank car models are Westinghouse air brakes and chain domes prevent the caps from slipping off.

A White truck, 3½ ton model, is shown as the final stage of distribution into jobbing territory. This model is epuipped with Goodyear tires with familiar diamond shaped treads.

The engine house which includes miniature Foamite installation, was furnished by the Industrial Construction Co., and the steam still and power house buildings were provided by the Phillips Petroleum Co., of Bartlesville.

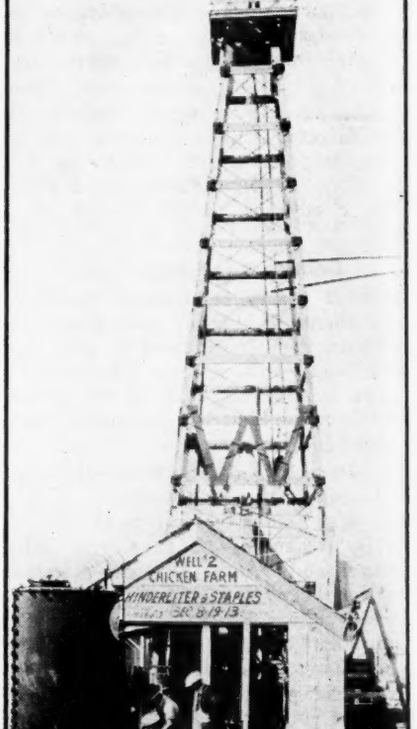
Drilling and Pumping Wells

Tidal Oil Co's. exhibit of drilling and pumping wells gives a model showing in one-twelfth actual size of typical producing division operations in the Mid-Continent territory. The model layout, which is reported to have cost $14,000 in time, research and physical work, is shown under the direction of Al Rose, superintendent of drilling operations in Oklahoma and Kansas.

The miniature tools and equipment are thorough in design, as an example of which it may be pointed out that the steel bull-wheels were made 86 threads to the inch. On the leaseman's house, shown in connection with the exhibit, there are 6066 shingles, all hand made at the rate of about 200 daily.

A 200-pound pressure gauge on the boiler, made by the Nicholson Clock Co., is smaller than a nickel but is in perfect working order. The boiler has in it more than 18 feet, all told, of rivets and is tested to 300 pounds pressure. It has 60 flues, 9 inches long, or total combined length of flues of about 45 feet.

The Roebling wire line is 6-ply, 7-strand, rope center; Ideal irons are utilized and Ajax type engine is provided with cross-head pump instead of injector.



Chicken Farm No. 2

A co-operative geological exhibit with the state of Texas as its background is being made through the courtesy of the Atlantic Oil Producing Co., the Humble Oil & Refining Co., the Sun Oil Co., and the Boyd Oil Corp., the latter being the style under which the Col. A. E. Humphreys interests now operate in Texas. R. B. Whitehead of the Atlantic is in charge of the exhibit.

Besides model showing contours on the Woodbine sand in the Mexia field and a peg model of the new Richmond development, a part of the exhibit has to do with chemical analyses of meteoric and chlorine waters in their relation to fault-line accumulations of oil in the Woodbine sand belt of the Balcones fracture zone. A stereogram showing fault line conditions, for which H. A. Ley of the Sun Oil Co. is responsible, is also shown.

A collection of fossils includes parts of a mastodon found in a gravel pit near Dallas, which belong to Southern Methodist University, being contrasted with microscopic specimens described as foraminifera. A large map of Texas is illuminated to scale and is used for a background.

An exhibit of the Marland Oil Co., Ponca City, gives the public and industry an opportunity to visualize the eco-

TEN MILLION DOLLAR EQUIPMENT DISPLAY

nomic facts of petroleum. This showing is made under the direction of C. C. Osborn, economist, assisted by Charles H. Pishny.

Included in this exhibit is what is said to be the largest oil field and pipeline map ever compiled of the area comprising that part of the domestic industry located west of the Mississippi river, which territory produces roundly all but 100,000 to 105,000 barrels daily of the country's raw material supply.

The Marland map, which is 10½ feet high and 14 ½ feet long, is brought up to date and shows on a scale of 12 miles to the inch every commercial oil field, every refinery and every trunk pipeline in the area.

It required two years of work of the department of Economics of the Marland company, according to Mr. Osborn, to assemble the data for the drawing of the map. Even gravities of crude produced in the various fields are divided into heavy and light grades by distinguishing colors of light and dark red.

Charts exhibited show world reserves based on known geology, production, local consumption and surpluses that require general outlets, together with channels of movement for the latter. There is also included a collection of maps of oil fields of the world, based on data from England and Germany.

Besides charts on the trend of production and consumption currently, the exhibit includes one of especial interest to the public showing gasoline cost represents only 11 per cent of the total motoring outlay; and contrasts with a 27 per cent cost to the motorist that is chalked up against depreciation, among other higher expense items.

U. S. Bureau of Mines

United States Bureau of Mines, with Charles R. Bopp in charge of the exhibit, is showing a peg model of the Cromwell field, samples of crude oil from fields throughout the world and oil shale fractionating possibilities. There are 420 samples of oil included in the showing of various fields throughout the world. A total of 25 samples of oil shales from Colorado and Utah are included.

A small laboratory for the testing of crude samples has been installed, with M. P. Youker and M. B. Cook of the Bureau of Mines adding their part to the work of Mr. Bopp. A showing is also being made of Safety First appliances and sets of photos out of the safety films "S. O. S.," and "Live and Let Live."

United States Geological Survey's exhibit, presided over by W. T. Thom, Jr., geologist in charge of the geology of fuels, and Miss Agnes M. Farrell, includes a number of features tying into the general principle of how the survey can be useful to the industry.

Boiler of Chicken Farm No. 2

A number of publications are on display, together with maps, charts and guides to selection of new territories for prospective development.

J. O. Lewis of Smith, Dunn & Lewis, chairman of the Tulsa section of the American Institute of Mining & Metallurgical Engineers is presiding over the exhibit of the institute.

Among other things, the institute is showing the arrangement of oil sands by horizons and localities, explaining what the organization is and what it does.

How Oil Is Treated

An interesting exhibit showing how oil is treated at refineries, both while being handled through plants and afterward, is being co-operatively made by the Tidal Oil Co., the Empire companies, Cosden & Co., The Texas Co., and the Marland companies. Taylor Instrument Co. and C. J. Tagliabue equipment is included.

On hand as representing the various companies are H. B. Beckley, representing Cosden; George Vance and Walter Gray, representing The Texas Co.; W. A. Payne and Vern Haas, representing the Empire; Messrs. Hendrickson and Orland Horn of Marland: C. H. Bigelow, G. L. Stewart and E. E. Dorley of the Tidal.

Dr. C. K. Francis is in charge of the exhibit of the American Society for Testing Materials, showing data and circulars having to do with the service the organization can render to various branches of the industry.

The Bureau of Explosives has an exhibit dealing with hazards with B. L. Heustis, inspector in charge, from New York, assisted by W. E. Cooper and S. R. Scott.

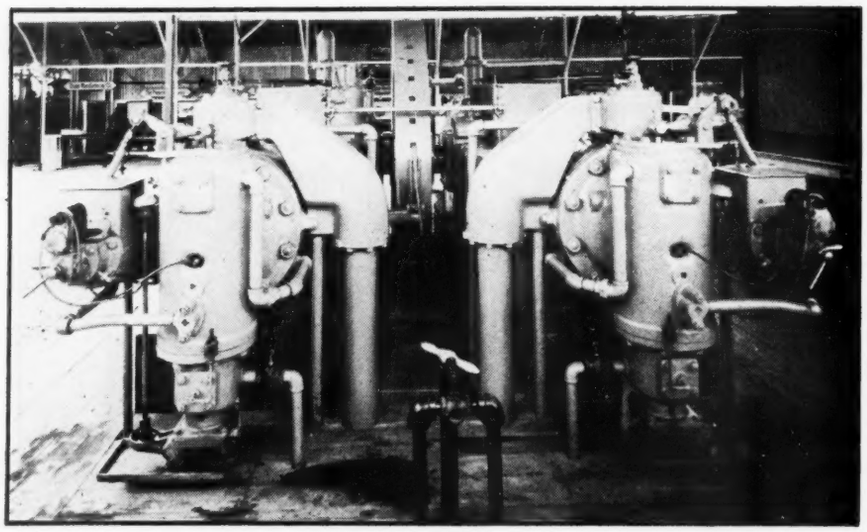
Soil Corrosion Work

T. S. Sligh, Jr., Physicist, is in charge of the soil corrosion work exhibit of the Bureau of Standards. Reference is especially made to service that can be given with regard to types of soils in which pipes and cables are likely to be buried.

Professor J. Bridge, formerly with the Union Oil Co. of California, is in charge of the exhibit of the Missouri School of Mines at Rolla. In addition to state maps of interest, he is showing a relief model of the Farnum structure in Utah that is of peculiar interest because of the unusual character of faulting found there.

The Mineral Division, Department of Conservation, State of Louisiana, has an exhibit in charge of Harry W. Bell, who succeeded to the technical work of

TEN MILLION DOLLAR EQUIPMENT DISPLAY



C. & G. Cooper. 160 h.p. twin cylinder direct connected gas engine and compressor

the department at Shreveport upon the resignation of Ben K. Stroud, now of the National Tube Co.'s research department at Los Angeles.

Mr. Bell, who formerly headed the Dallas office of the United States Bureau of Mines, is showing contour maps and core samples having to do with important North Louisiana development, including the Cotton Valley and other areas.

The Colorado School of Mines, Victor C. Alderson president, has a display of oil shales from Colorado, Utah, Ohio, Kentucky, Esthonia and Scotland. Nine bottles on display show the transformation of oil shale through to motor fuel, eight of the samples being in liquid form. The Colorado School of Mines is one of the important technical schools where petroleum engineering is taught.

Charles N. Gould, author of United States Geological Survey water supply papers on the Texas Panhandle as well as being an authority on the Mid-Continent, is in charge of the University of Oklahoma exhibit. It includes interesting formation samples, both cored and otherwise, together with photos and pertinent data.

Maps showing the relation of granite ridges to production in Kansas are included in the exhibit of the University of Kansas, presided over by Raymond C. Moore, state geologist.

The Geological Survey of Arkansas and the California State Mining Bureau also have interesting displays. The Arkansas exhibit is especially interesting because of the Smackover and El Dorado developments of the last few years.

In connection with the California exhibit is shown a peg model of "25 Hill" in the Midway-Sunset area of the San Joanquin Valley fields.

The Technical Club of Oklahoma has a public library exhibit of books and periodicals, stressing reference value and its co-operation with the industry.

W. H. Getty is on hand for the exhibit of the Corporation Commission of Oklahoma and "Tip" Bidding is in charge of the showing made by the state auditor's office.

Anything Can Happen

TULSA, Oct. 4.—Some visitor to the exhibit of the Mid-Continent Map Co. has a high regard for its prodigality in souvenir gifts to its friends.

The company is giving away bill folds to its customers and friends at the exposition. The other night T. I. Darland was in charge of the distribution. During the course of the evening Darland gave away one bill fold which he had dedicated to his own use. It contained $5 or thereabouts.

We are not authorized by Mr. Darland to offer a reward of $4.95 for the return of the souvenir.

Markham Heads Knights of Derrick

TULSA, Oct. 6.—John H. Markham of Tulsa was elected National president of the Knights of the Derrick at the annual meeting at which permanent organization was perfected.

State vice presidents elected were: Oklahoma: Frank Phillips, Bartlesville; Texas: J. Edgar Pew, Dallas; Kansas: A. L. Derby, Wichita; Illinois; George N. Moore, Chicago; New York: Frank Haskell, Tidal Oil Co; Pennsylvania: M. L. Moore, vice president, Frick-Reid Supply Co., Pittsburgh; California: S. A. Guiberson, Los Angeles.

Fishing Job? Just Page Frank Hinderliter

TULSA, Oct. 4.—Hinderliter and fishing tools are words that go together so well that they should be included in every book of English synonyms. To think of one is to think of the other especially when the going gets rough and everything has been lost in the hole except the tooldresser's overalls.

This being the case, fishing tools are naturally the principal features of the Hinderliter Tool Co.'s exhibit at the Petroleum Exposition, and they are displayed in such variety that there is little spare space in booths 23 and 24 Kansas building, the company's temporary headquarters.

Among tools the Hinderliter is featuring in its exhibit are the combination eccentric socket, the slip ring socket, the bell socket spear, the kick-off tool, the swivel top bailer, the casing collar ripper, and the jar-up and jar-down casing ripper. In addition a general line of drilling and fishing tools is displayed.

Frank J. Hinderliter, vice-president and general manager, is in charge of the exhibit, assisted by a number of Hinderliter men, including the following: Herman B. Hendershot, secretary, and A. G. Lott, shop superintendent, both of Tulsa; W. G. Jordan, salesman, Cleveland, Okla., and R. I. Watkine, salesman, Bristow.

Pew Made Chairman Of Standardization Body

TULSA, Oct. 6.—A general committee on standardization of the American Petroleum Institute was officially perfected at a meeting Oct. 6 in Tulsa in connection with the Petroleum Exposition, when J. Edgar Pew of the Sun Oil Co. of Dallas was elected national chairman.

Two vice chairmen were named with Mr. Pew, being H. J. Lockhart of the Parkersburg Rig & Reel Co., representing eastern and Mid-Continent territory, and Chris G. Sharpenberg, of the Standard Oil Co. of California, at Los Angeles, representing western territory beyond and including the Rocky Mountain region.

C. A. Young, who last spring left the Lucey Manufacturing Corp. to join the institute in direct charge of standardization work, was made national secretary of the general committee.

The Tulsa session was presided over by chairman W. S. Farish of the Committee of the Board of Directors on organization as temporary officer.

Boyce, In Pamphlet, Answers N.P.N. We, In Our Turn, Answer Him

CLEVELAND, Oct. 3.

A TEN-PAGE pamphlet bearing the title, "Boyce-ite Answers National Petroleum News" has been put out over the signature of Harrison Boyce, and also published as an advertisement in another oil paper.

National Petroleum News assumes the pamphlet is an official utterance of Mr. Boyce, head of the Boyce & Veeder Co., Inc., manufacturers and merchandisers of this gasoline tonic. In it he gives his position on the points raised by this publication in its previous discussion on Boyce-ite and on some points not raised in this discussion.

Mr. Boyce, in his introductory remarks, recognizes the purpose of National Petroleum News, and its responsibility to its readers, in going into detail into all points on gasoline tonics generally and urging that the oil industry be given full and absolute proof as to their merits before adopting or recommending them. In the introduction, Mr. Boyce says:

"The National Petroleum News is more than a newspaper—like every well run publication it recognizes a very definite responsibility to its readers.

"Its editor, in common with other oil and automotive men, has seen many worthless gasoline 'dopes' and tonics come on the market, stage their brief act and, then, deservedly fail.

"The National Petroleum News is skeptical about Boyce-ite. I was myself until I had proved its merit by actual use.

"There are several points on which the editor of National Petroleum News seems doubtful.

"Judging by the articles which have appeared, there are certain questions uppermost in his mind. I am going to answer them in order."

Since Mr. Boyce in his pamphlet has taken issue with the points raised by this publication in its discussion of his Boyce-ite, National Petroleum News believes its readers are entitled to a statement again as to its position on these points, on some of which later information has come to hand since its earlier discussion in its news columns.

The remainder of this article is largely a discussion of these various points as they have been brought up by Mr. Boyce in the form of questions and answers in his pamphlet. His pamphlet is presented herewith practically in its entirety in order that the oil industry may have further testimony on which to base its final opinion.

National Petroleum News has endeavored to give all the fact on tonics that the oil industry might judge intelligently. It has cautioned the oil industry repeatedly against undertaking the sale of any gasoline improver of any sort unless the manufacturer of the product furnished absolute scientific proof that his material would do exactly what was claimed for it. It has pointed out also the errors likely to arise from taking the experience of individual drivers with a product as conclusive because of the many uncontrollable factors that govern the performance of an automobile engine and the liability of the driver to be influenced in his judgment by prejudice, advertising claims, etc.

Warned Against Prejudice

At the same time, this paper has warned the industry against taking the arbitrary attitude that anything offered to better the performance of gasoline or the operation of the automobile engine is of necessity a fake, although nearly all of them have been fakes. It has stated the belief that great changes and great improvements in motor fuel and engines are undoubtedly under way, that nobody knows all there is to know about engines and fuels and that some of the hundreds of chemists and engineers who are devoting their time to study and experiments, are making important discoveries right along.

We have urged the industry to maintain not only an open mind, but an eagerly seeking mind as to anything that will improve fuel and to pass up nothing that promises increased efficiency without giving the manufacturer a chance to prove its merits by scientific tests carried on in a competent and disinterested laboratory.

In this connection, in an editorial published on page 33 of the Sept. 3 issue, under the signature of W. C. Platt, this paper said:

"It is also entirely conceivable that this development (an improved motor fuel) may come from without the industry, although oil men are bending every effort to be the first to discover every improvement in motor fuel. Oil men undoubtedly will lead but others may beat them to it and if so the oil industry will be the first to offer praise for the achievement."

And again in the same editorial:

"We believe the industry will concur in the statement that, if there is any gasoline tonic, by whomsoever made, that will make a better motor fuel for the public and which is worth the price which may have to be asked to cover its cost, and that tonic can be had under fair and reasonable business conditions, the industry welcomes that tonic and will lend every aid possible to further its use."

Danger to Oil Industry

And then, to point out the danger to the industry of helping in the distribution of a worthless tonic, the same editorial went on to say:

"If the oil industry or any individual oil company were to lend its aid, even unwittingly, to the distribution of a tonic that was worthless, it would be most embarrassing to the industry. If any portion of the oil industry were to undertake the distribution of tonics it would be only a short while before various government agencies, municipal, state and national, would investigate and, if the tonics were found worthless, the oil companies would not only undoubtedly be charged with fraud but the resulting publicity would be one more count in the indictment that public fancy has brought against the whole oil industry and the effect would be felt by every oil company whether party to the fraud or not."

Following the introduction, the pamphlet takes up various points. Here is the first one:

Question No. 1

"Question—Did the Sheffield Scientific School of Yale University approve of Boyce-ite?"

"Answer—Here's a copy of the report and Professor Lockwood's letter—judge for yourself."

The pamphlet has reproductions of Professor Lockwood's letter and the reports submitted. The letter of the professor follows:

"Enclosed are two prints of tests of the Ford sedan. The report contains

items for two tests of the same car, one made in the badly carbonized state, the other after driving the car 400 miles with the use of Boyce-ite in the fuel."

"The dynamometer test proves that the decarbonized engine developed more horsepower and was more economical of fuel. This result can be duplicated at any time, I am sure. To prove this we are planning to carbonize the engine again to prove loss of power and then remove the carbon by the use of Boyce-ite to show that the power will be regained.

"The photos of the heads before and after use of Boyce-ite will be ready in a day or two."

What Dean of Sheffield Says

As to the tests made at Sheffield Scientific school, National Petroleum News in the Sept. 17 issue, page 32, published a letter signed by Charles H. Warren, dean of the school, addressed to V. B. Guthrie, managing editor of this paper and dated Sept. 11, 1924, as follows:

"There have appeared from time to time during the past few months in various leading newspapers and magazines, advertisements of the so-called auto-fuel 'Boyce-ite,' a product manufactured by the Boyce-Veeder Co. of Long Island City, N. Y. These advertisements have been issued by the company or their agents."

"In support of the claims made in these advertisements relative to the beneficial results which are alleged to attend the use of Boyce-ite in gasoline in automobile engines, they have stated that Boyce-ite has the approval of the Sheffield Scientific School of Yale University. They have also published the results of certain experimental tests made in the laboratories of the school in such a manner as to lend support to their claims for Boyce-ite."

"It is true that the Boyce-Veeder Co., through their representative, arranged to have certain experimental tests on the behavior of Boyce-ite in automobile engines carried out in the Mason laboratory of mechanical engineering of the Sheffield Scientific School by an expert connected with our staff. Preliminary tests were made and their results duly reported to the company. Further tests are being made to check the earlier ones and when completed and studied, it is hoped that some reliable conclusion can be reached as to the real value of Boyce-ite as an automobile fuel. The preliminary tests obviously furnish too meager information to warrant any conclusion as to the value of the product under general conditions of automobile operation."

"The company saw fit, however, to make use of these early results to advertise their product and furthermore, did without authority or permission and in a wholly unwarranted manner, use the name of the Sheffield Scientific School in supporting their claims."

"After our attention was called to an advertisement which appeared in the Saturday Evening Post of May 31, the Boyce-Veeder Co. was personally warned by me to desist from using the school's name in this manner. They have, however, continued to do so and, fearing that the use of the school's name in the manner referred to, may be misleading to the automobile public, and that such use is an abuse of the honest effort to secure reliable experimental technical information on the part of certain members of the staff, I will ask you to give this letter a prominent position in your journal. It will be, I believe, in the interest of experimental technical work and fair business dealing."

National Petroleum News, in its earlier discussion of Boyce-ite, stated that the heads of Sheffield School were objecting to the use of its report in its advertising on these two grounds, first that the institution as a policy never approved a proprietary article, and, second—that its investigation had not proceeded far enough when Prof. Lockwood's preliminary or progress report was issued to prove conclusively the merit of Boyce-ite.

Question No. 2

Question—"Has Boyce-ite been tested by any scientific organizations?"

Answer—"Yes, we are continually having tests made by such organizations. On the preceding pages there is a report from the Sheffield Scientific School of Yale University. Here is one from the College of Engineering of New York University and, on the opposite page, a letter from the head of the mechanical department of Norwich University."

The first letter mentioned above, on the letterhead of the Department of Engineering of New York University and signed by Collins P. Bliss, professor of mechanical engineering and director of testing laboratories, follows. The letter was addressed to the Boyce & Veeder Co.

"Referring to the recent investigation conducted under my direction at the Sage Engineering Research Laboratories of New York University, regarding the use of Boyce-ite in a Ford touring car, you are at liberty to publish the following facts:

"A test was made on a car the engine of which had been carbonized until it developed a very perceptible 'knock' which made the car hard to start and poor in hill climbing, due to loss of power. The engine was then removed and a laboratory test made for horse power and fuel consumption.

"The engine was then re-installed in the car. Boyce-ite was used in the proportion of one four-ounce can to 10 gallons of gasoline and the car was driven a distance of 946 miles with this mixture over a period of eight days."

"After careful inspection of the pistons, cylinders and valves, a second laboratory test was made on the engine to ascertain the results produced by Boyce-ite.

"The conclusions evident from the data secured during the above tests prove that—

"1—Boyce-ite removed the carbon to a sufficient extent to put the engine back in its original good working condition.

"2—During the eight-day road test, covering 946 miles of driving with Boyce-ite in the gasoline, the mileage was increased from 16.7 miles per gallon on the first day to 21.7 miles per gallon on the last day.

"3—The laboratory tests substantiated the road tests on fuel consumption and showed an average increased H.P. of 8⅔ per cent.

"A further test was made to determine the effect of Boyce-ite on the materials generally used in the fuel supply system and engines of automobiles. For this purpose, chemical tests were conducted. These chemical tests on the materials of construction prove conclusively that Boyce-ite has no injurious effect on such metals."

Prof. Bliss Interviewed

In regard to the test described in the above letter, Paul Truesdell, of National Petroleum News, editorial staff interviewed Professor Bliss in New York on Sept. 25.

The professor was asked whether, if he had taken a carbonized Ford car and run it 946 miles in eight days, (pretty hard driving) with plain gasoline without any Boyce-ite, whether such running would or would not have cleaned out a good deal of the carbon in the car so that it would have run better and with greater fuel economy on the last day of the test than on the first day.

The professor said that very likely the carbon would have been cleaned out by the same distance of hard driving with plain gasoline. Asked whether he had made any such tests with plain gasoline, he said he had not.

"Do you regard the test you made as conclusively proving that all the claims made for Boyce-ite are true?" he was asked.

"No, I would not say the test was conclusive, but it is my opinion that Boyce-ite was partly responsible for cleaning the carbon out of the car. Also it is my opinion that Boyce-ite reduces the formation of carbon in the car, or at least keeps it in such shape that it blows out, through the exhaust."

"Then it is merely a matter of your opinion and not necessarily an established fact?" was the next question.

"Yes, it is just a matter of my opinion," he replied.

It is hard to see how this report could be put forth for the serious consideration of the oil industry or the public generally as by a "scientific organization."

Concerning the letter from Norwich University. It is written on the station-

ery of that institution and is signed by S. Francis Howard as head of the Department of Chemistry. The letter only quotes a garage man. The professor seems not to have any personal knowledge on it. Here is the letter, addressed to the Boyce & Veedor Co., as reproduced in the pamphlet:

"The result of my use of Boyce-ite has been so satisfactory in my 1918 six-cylinder Buick touring car that I take pleasure in reporting my findings to you.

He Said He Would Remember

"In May of this year two of the valves needed re-seating and I asked Mr. Legier, the garage owner, to inspect the other cylinders for carbon as I was going to make a trial of Boyce-ite on a trip of several hundred miles, and I wished him to keep in mind their condition at that time so as to be able to determine the effect of the Boyce-ite, if any, on my return. He, of course, found much carbon and said he would remember."

"After my trip of 500 or 600 miles I again took the car to Mr. Legier. He informed me that there were several articles on the market for destroying carbon, etc., but that he had no faith in any of them and had never bought or sold them except that lately there had been some calls for Boyce-ite and he had gotten a little of that. A neighbor of his had tried it in two trips to Montpelier (44 miles total) and a paper held at the exhaust collected some small particles of carbon. This was not very conclusive, however, to him. On removing one of my spark plugs, he exclaimed with a look of surprise. 'Well, it certainly has done the business.'

"That he is convinced of the effectiveness of Boyce-ite is evidenced by his later remarks. 'The carbon could not be burned out as clean as that.' Again, picking up a part of a cylinder from his bench, he pointed to a small hole in the center and said, 'When a cylinder is ground that little hole is never cleaned of the carbon but it is clean in your cylinders.' Before I left the garage he made one other statement: 'Your engine is as free from carbon as it was the day it was made.'

"As Boyce-ite has certainly 'made good' you are entitled and are very welcome to this bit of unsolicited evidence."

By no stretch of the imagination can this be called an investigation by a scientific organization, nor by Norwich University, nor even by the professor who signs the letter.

Question No. 3

Question—"Is Boyce-ite barred in Colorado?"

Answer—"At the moment, yes. An old law in Colorado would compel us to disclose each and every ingredient entering into the manufacture of Boyce-ite to the state oil inspector and to change our label subject to his approval. Our patent attorneys have repeatedly advised against disclosing the ingredients of Boyce-ite."

Then follows a letter addressed to James Duce, oil inspector of Colorado, and signed by Harrison Boyce, in which he states his understanding that Boyce-ite is to be tested in the oil inspector's laboratory and if it shows the results obtained by the Sheffield Scientific school, the oil inspector will permit its sale in Colorado. The letter is dated June 9, 1924. On the same page, below the copy of the letter is the statement:

"Our attorneys have this situation well in hand and it is expected that Boyce-ite will shortly be sold in Colorado."

In an article appearing in its Aug. 20 issue National Petroleum News stated that Mr. Duce refused to approve Boyce-ite for sale in Colorado because he could not satisfy himself, through his own investigation as to all the claims of merit for this product. Even this was sometime after the letter of June 9 written to him by Mr. Boyce.

Interviewed a few days ago while in Tulsa for the Petroleum Exposition, Mr. Duce stated he had not changed his position with regard to the sale of Boyce-ite in Colorado.

"We have found nothing as yet that leads us to believe that we should approve it," says Mr. Duce.

With regard to the claim it is expected Boyce-ite will shortly be sold in Colorado, Mr. Duce says that he has received many telegrams and letters from the Boyce-ite people, which he has not answered, and that, although it has been suggested, no legal action has been brought in the Colorado courts to compel him to give his approval for the sale of Boyce-ite.

Would Welcome a Suit

Such a proceeding would have to take the form of a mandamus action. Mr. Duce says he would welcome such a suit as it would probably furnish the easiest way out of the argument by forcing Boyce & Veeder to prove the efficacy of Boyce-ite to the satisfaction of the court to obtain an order for Mr. Duce to give his approval.

Question No. 4

Question—"Does Boyce-ite injure metals?"

Answer—"Emphatically no—Boyce-ite has been used in hundreds of thousands of automobiles and I have never known it to injure a single motor. I have advertised and broadcasted a $5,000 reward to anyone who could prove that Boyce-ite has injured any motor of any kind, at anytime, anywhere. No one has ever come forward to claim this reward."

"The National Petroleum Marketers' Association in a recent bulletin inferred that Boyce-ite injured metals—a $1,000,000 libel suit has been filed against them."

As to the first part of the above statement, National Petroleum News has never discussed whether Boyce-ite would injure metals.

As to the second part of it, the suit against the National Petroleum Marketers' Association has not been filed. President L. V. Nicholas of the association has been notified of the intention of the Boyce & Veeder Co. to sue him and the association. The actual petition in the case has not been filed. Mr. Nicholas does not know yet what it is all about.

Question No. 5

Question—"Why don't you have Boyce-ite tested by the Bureau of Standards?"

Answer—"I attach my attorney's letter on this subject."

Letter to Dr. Dickinson

The letter, dated June 5, addressed to Dr. H. C. Dickinson of the Bureau of Standards and signed by Edmund Quincy Moses of Moses & Nolte, 110 East 42nd St., New York City follows:

"Mr. Boyce and I have given careful consideration to the matters discussed at our recent interview in Washington. Mr. Boyce is desirous of securing a test from the Bureau of Standards at the earliest practicable time, demonstrating the action of Boyce-ite; such a test as discussed consisting of the use of Boyce-ite in a carbonized automobile engine driven over the roads in the usual manner for a distance of from 300 to 500 miles. We know that under these conditions, which are the conditions of actual use, satisfactory results will be obtained, but we would naturally like to have the confirmation of authoritative tests by the Bureau of Standards.

"On the other hand, particularly in view of the present patent status of Boyce-ite in the United States and abroad, which has not yet been definitely passed on, it seems inadvisable to me that a full disclosure be published at this time of the nature and action of all of the ingredients of the compound, which would appear to necessarily result from the submission of Boyce-ite for tests in accordance with the established practice of the Bureau. I have been compelled, therefore, to advise Mr. Boyce that at this time I think it would be unwise for him to submit Boyce-ite for tests in such a way as would result in publication of information which might be harmful to the interest of the company.

"If it is possible for you to make tests of Boyce-ite to show what it will do

and to merely publish the results as to operation without going into the composition and action of the ingredients, which we believe we are entitled to regard as our 'trade secrets' for the present at least, Mr. Boyce would like to arrange to have such tests made as soon as possible. If, however, the tests cannot be proceeded with under these limitations, which I understand to be the case, we have decided that we will have to defer further action for the present."

Within the last few days Dr. Dickinson stated that he did not ask the Boyce-ite people for a statement of its ingredients; that the Bureau of Standards would prefer to determine the ingredients itself, as it had done for many gasoline tonics in the past. Dr. Dickinson stated some time ago the Boyce-ite people told him they did not desire the bureau to go ahead with its test because of the position of Boyce-ite claims in the patent office.

Question No. 6

Question—"Is Boyce-ite infallible?"

Answer—"Certainly not. I know of no product that is. There are apparently certain cases where it fails but here is my guarantee to take care of such instances:

"Go to any garage, automobile or accessory store, or gas station in your city, buy two or more dollars worth of concentrated Boyce-ite, used according to directions and if you are not satisfied that what I have told you is an absolute fact, take your car to your regular garage and if your trouble is due to carbon, I will pay for having the carbon burned out if you will send me the bill.

"Today (Sept. 8) less than a year since we started in business, 16,000,000 cans of Boyce-ite have been sold and our complaints are less than one-hundredth of one per cent."

We thought Boyce's advertising claimed the infallibility, National Petroleum News has not.

Question No. 7

Question—"Is Boyce-ite advertising exaggerated?"

Answer—"No, it may be spectacular but I personally sign practically every advertisement we issue and every statement contained in them is to the best of my knowledge and belief, true. The style of copy we have have been using is necessary during the introductory period of a product like Boyce-ite, which bids fair to revolutionize the gasoline industry."

As to whether Boyce-ite advertising is exaggerated and whether Boyce-ite is likely to revolutionize the gasoline industry, we leave that to the reader's good sense.

Question No. 8

Question—"Isn't it true that objections have been raised to your slogan, 'The only fuel fit for your motor?"

Answer—"Yes, strenuous objections—but until someone produces a fuel other than Boyce-ite that does not produce hard, gritty, destructive carbon in the most delicate parts of your motor, that statement will stand."

This is downright slander on the oil industry. Mr. Boyce might inform himself as to just where carbon comes from. He has evidently gotten confused over "carbon" and "carbon knock." Does he know that a good part of what makes up carbon is dust working through the air intakes and carburetor, and originating entirely outside the motor fuel itself? Does he know that many automotive and oil experts believe carbon is caused much more from the burning of the lubricating oil in the cylinders than from the gasoline?

Question No. 9

Question—"Have you been challenged to produce an analysis of Boyce-ite?"

Answer—"Yes, but I see no more reason why I should disclose the ingredients of Boyce-ite than that I should give my competitor the combination to my safe."

Many chemists who have examined samples of Boyce-ite have told us that those samples offered no difficulties to the chemist who attempts to analyze them. Those chemists who are interested have found out the name and nature and action of the ingredients of Boyce-ite for themselves. They have made the closest tests even to analyzing the exhaust gases from Boyce-ite fuel to determine if this disclosed something not shown in chemical analysis.

Question No. 10

Question—"Is Boyce-ite a stock-jobbing venture?"

Answer—"By no means. There is no Boyce-ite stock for sale and I might add that we do not contemplate offering any."

National Petroleum News has not concerned itself with Boyce's stock arrangement.

Question No. 11

Question—"Is Boyce-ite dangerous to handle?"

Answer—"No. It will make you sick if you drink it—so will gasoline. I have had just two complaints on this score and in both cases found after investigation that they were absolutely without foundation."

National Petroleum News has not discussed the drinking of either Boyce-ite or gasoline.

Question No. 12

Question—"Have you ever seen any unfavorable laboratory tests on Boyce-ite?"

Answer—"Yes — one. This was published in your own magazine, The National Petroleum News, but the name of the organization making the test was not given so I have been unable to do anything about it."

It's not necessary for Mr. Boyce to know the origin of the tests published to discuss them. The tests disputed most, if not all, of the claims made for Boyce-ite.

Question No. 13

Question—"Do automotive jobbers believe in Boyce-ite?"

Answer—"Yes, 100 per cent. Our 400 recognized jobbers from Maine to California stand behind it to a man."

Do they? This is outside our field.

Question No. 14

Question—"What do gasoline distributors think of Boyce-ite?"

Answer—"Here are letters from two of our first distributors. Judge for yourself."

The first of these letters is on the letter head of the Richdale Oil Corp., Boston, and signed by J. C. Richdale Jr., president. It is addressed to the Boyce & Veeder Co. It follows:

"We have just been looking over our records, comparing our operations of today with the period prior to our taking on your Blu-Green Ingredient; and as you have been largely responsible for the increase in our business, we thought possibly you might like to know the results.

"Our wholesale records show that we have dispensed more gasoline in the first 15 days of September than we did in the entire month of June and June has always been the best month in the year.

"Our retail service stations have, without exception, doubled their daily gallonage; in fact we are now finding it necessary to install new pumps and tanks in our best filling stations to take care of the increased Boyce-ite business.

"We have placed one Boyce-ite pump in many stations which have heretofore been exclusively Tydol, Socony, or Gulf, and, through the medium of this one pump, have taken 50 per cent of the business of the station.

Getting Tourist Trade

"For the first time in the history of our business we are enjoying our share of the tourist gallonage. It has always been rather a sore point with us—our business being located in the "playground of the east"—that the transient trade has passed by our stations to buy

nationally advertised fuel or at least a gasoline they have seen in their home towns. Boyce-ite is becoming a nationally known product and we are led to believe that we will secure more than our share of the tourist trade in the future.

"Garage and filling station owners are now calling us on the telephone, asking us to install pumps and tanks for them and we are not finding it necessary to make the customary concessions which are being made by our competitors; such as making the owner a present of a new driveway, or a canopy over the old driveway, air compressors, lights and so forth.

"Summing up, we are willing to concede that your Blu-Green Ingredient has increased our business, wholesale and retail, 100 per cent in 45 days and we are still placing new equipment for dispensing this material just as fast as three crews of men can make the installations. The future looks bright."

The second letter addressed to the Boyce & Veeder Co., bears the signature of the Hall-Rattermann Oil Co. of Cincinnati, by L. B. Rattermann. It reads:

"Our experience in the past 60 days in the marketing of Blu-Green Boyce-ite treated gas in the Cincinnati market is as follows:

"1—Your product from a quality standpoint has made good, with but few exceptions, in a 100 per cent way.

"2—The character of advertising has created a most favorable impression on both the user and the gasoline trade in Cincinnati.

"3—The sale developed instantaneously on the opening of the pumps and increased daily from then on. At present, four pumps are averaging 450 gallons daily.

"4—Our volume has been increased 50 per cent within 45 days.

"5—From every indication, Blu-Green treated gas is the coming fuel and we consider it a wonderful opportunity for any aggressive company who can give service and efficiently market any territory assigned by Boyce & Veeder Co., Inc."

What Some Others Think

Accepting Mr. Boyce's questions as expressing a desire on his part to know what oil distributors think of tonics generally, National Petroleum News wired a number of established oil jobbing companies picked at random to tell us their experience with motor tonics.

Here are the answers of the jobbers who replied, to date. We will be glad to print more.

Robert E. Trimble, Western Oil Refining Co., Indianapolis

"Boyce-ite heats a motor, has a tendency to make it knock but gives a small increase in its power output. From a chemical standpoint, its composition is nitrobenzene, which is the chemical name for oil of mirbane. In a general way it has just the opposite action on a motor that ethyl fluid or benzol blended gasoline (benzol blended gasoline of 50-50 mixture) has.

"I have tried Boyce-ite out in a number of different cars and have always found approximately the same results. With cars not having any material carbon deposit, I could not see any difference in performance; and with cars having a considerable carbon deposit, I could not see any material difference in operation or in the elimination of carbon after approximately 1,000 miles of running.

"The above may be a little hard on Boyce-ite, but it is my honest and frank opinion."

L. F. Kuehnle, Leader Oil Co., Dubuque, Ia.

"Our opinion of Boyce-ite is that it is the bunk. We allowed all of our service stations agents to handle Boyce-ite on their own hook but without our endorsement. Demand was at first good but kept dwindling until it got down to practically nothing. Most of our stations have discontinued handling it. Comparatively few users reported favorable results. A large majority reported either unfavorable or no results."

Corn Belt Oil Co., Bloomington, Ill.

"We handle no gasoline dopes of any description. Our experience has been that the motoring public will buy these for a short time through curiosity if they are heavily advertised. A small percentage of the purchasers have strong imaginations and continue buying for some little time but the great majority of them do not."

Liberty Bell Oil Co., St. Louis

"Our experience with Boyce-ite has been that it removes carbon knock as long as it is used. Personally we feel that the cause should be removed rather than the knock. Our stations found it a good seller while advertising was being done but for the last several months it has been almost dead stock. We think, if it is advertised again this fall, it will sell fairly good during the winter but it must be advertised continuously to sell."

Reed Oil Corp. of Georgia, Atlanta

"Regarding Boyce-ite, we have made numerous tests using as directed and we were unable to see any advantage or disadvantage in using. We have also talked with many motorists. Some say they like it, others have quit using it because they did not see any improvement. We have not sold it but calls for it at our stations have practically stopped."

A. H. Caward, Hawkeye Oil Co., Waterloo, Ia.

"I have had no personal test of Boyce-ite in my car so cannot speak from experience but it has always been my thought that nothing could be added to straight run gasoline to add to its efficiency and I would hesitate to recommend this or any similar product for that purpose."

E. H. Hilpp, Kentucky Consumers Oil Co., Louisville

"After using Boyce-ite continuously for 1000 miles I was unable to see any appreciable benefit. It was used in connection with Navy gasoline during 1923. As a result of this personal experience and investigation, my company would not recommend it to its clientele."

H. C. Casselman, Rolla Oil Co., Rolla, Mo.

"I used Boyce-ite in my car for about 30 days and found it to be of no benefit in any way."

Question No. 15

Question—"What is your own personal opinion of Boyce-ite?"

Answer—"I have spent my life in the automotive industry and I believe that Boyce-ite is the greatest boon to motorists the industry has ever developed. Boyce-ite has answered the greatest problem of the internal combustion engine—carbon.

"The growth of the business should convince anyone that the discovery of Boyce-ite was a most welcome one.

"Hundreds of thousands of motorists are demanding Boyce-ite every time they buy gasoline.

"Boyce-ite was no haphazard finding. I have spent thousands of dollars pushing Boyce-ite. I have invested my personal fortune in it and have pledged my good name to its success in the firm conviction that Boyce-ite cannot fail.

"I have no quarrel with skeptics—I was the greatest skeptic of all when Boyce-ite was first presented to me. The quarrel I have is with the individual, firm or corporation who condemns Boyce-ite without knowing the true facts and who is not willing to be shown."

And the signature of Harrison Boyce concludes the pamphlet.

National Petroleum News, and we feel safe in saying the oil industry as well, are still willing and waiting to be shown conclusive proof of the merits of Boyce-ite.

FORT WORTH, Oct. 4.—Glenn Garrett, scout and leaseman in the Eastland zone offices for the Gulf Production Co. for a number of years, has been promoted to head of the land and lease department for north Texas, with offices in Fort Worth. Garrett succeeds Charles Brown, who resigned, effective Oct. 1.

Fire Prevention In Oil Properties

By Frank A. Epps

Manager Fire Protection Department, Tide Water Oil Co.

Address To Petroleum Section, National Safety Council, Louisville, Sept. 30.

STATISTICAL evidence tells us that lightning is the cause of greater fire loss to the oil industry than all other fire causes put together. To understand the whys and wherefores of lightning fire prevention, it is first necessary to consider the fundamental conditions which almost invariably arise in lightning fires.

A wooden, or non-gas tight tank roof is almost invariably a preliminary condition to oil tank ignition by lightning. There are several theories regarding the ignition of wooden roofed tanks. Undoubtedly there are a number of "Direct Hits." Experiments made by the General Electric Co. indicate that a tall object will only draw the direct hits that would otherwise fall within a zone whose radius would be four times the height of the object.

Thus, a tank 30 feet high will probably receive discharges that would otherwise strike the earth within a circle concentric with the tank but 120 feet greater in radius. With an understanding of this point you will see that the tank of itself, even though highly conducive to electricity does not draw direct hits from lightning to any appreciable extent.

Fires Caused Indirectly

The evidence at hand that a large proportion of tank fires attributed to lightning are caused in an indirect manner. It is commonly accepted that a column of gas vapor ascends from such tanks at least several hundred feet into the atmosphere. Lightning when flashing through this vapor zone is presumed to cause a flash-back to the tank.

If you will consider the facts of the case, I think you will agree that it is highly improbable that a tank would be ignited in this manner.

In the first place, the vapor from crude oil and gasoline are largely pentane and hexane, with perhaps smaller portions of propane and butane. All of those gases are from one and one-half to three times heavier than air, and in consequence thereof it is not probable that they would rise to any extent.

Secondly, a thunder storm not accompanied by more or less wind is unusual. In fact, the production of wind is part of the storm itself. Any wind or breeze would very rapidly dissipate the column of gases which might be hovering above the tank.

Thirdly, even assuming the gases would rise, it is not probable that a mixture rich enough to propagate flame would extend several hundred feet into the atmosphere. But even so, the thunder cloud is usually from 2000 to 5000 feet above the earth, and this being true, of what account would be a column of vapor a few hundred feet high?

It is much more likely that the lightning strikes the ground in the vicinity of the tank, and the heavy vapors trailing along the ground in a rich enough mixture, flash-back to the tank itself. But here again the wind and breeze serve to dissipate and diffuse the vapors quickly.

Three Lines Of Defense Against Oil Fires

FIRE prevention is principally a process of checking up, Mr. Epps says.

Fires can be prevented. To do it it is necessary only to form and maintain three lines of fire defense, which are:

First—Not allowing fires to start;

Second—Minimizing combustible material and making construction such, that if fire does start it cannot spread;

Third—Extinguishing fires that do start and spread in spite of our best efforts.

It is dangerous to rely solely on the third and last line, but that is what most oil men are doing. Fire cannot be driven back of our front trenches and kept there, unless we strengthen and maintain these three lines of defense.

To my mind this refutes the theory of flash-back from the ground, except in exceptional cases where distinct gas pockets are known to exist.

Due to "Induced Charge"

In all probability ignition takes place through what is known as an "induced charge." You have often heard of a man being knocked unconscious, or being shocked by lightning as he stood under a tree which was struck. He was shocked by an "induced charge."

On a wooden roofed tank covered with sheet iron, the respective sheets of same not being well bonded together, electrictiy in rushing back to the ground jumps over a joint between two sheets not bound together, and produces a spark. This spark is produced right where a rich mixture of gas exists and it need only be a few hundredths of an inch long to fire the contents of the tank. This is, I believe, the true explanation for the ignition of so many wooden roofed tanks.

At first thought, it is remarkable how few steel roofed tanks are ignited by lightning. Occasionally, we hear of one. Certainly the steel roofed tank is not less subject to being struck by a direct hit than a wooden roofed tank. Undoubtedly lightning actually strikes a great many steel roofed tanks and we hear nothing about it. The discharge is immediately conducted to ground by the great conductivity of the steel roof and the shell of the tank. If the tank has no holes in it, that is, if the different hatches are closed and the vent is properly protected with a fire screen, an all steel tank is really a safe proposition. Experimentally demonstrated it is impossible for a spark to be produced within such a container by any external electrical manifestation.

Trace Fires to Leaks

I am confident that every steel roofed tank fire caused by lightning can be traced directly back to an open gauge hatch, open manhole, defective vent screen or other non-gas-tight condition in which vapor was ignited outside and flashed back to the interior of the tank. I do not believe it is possible to set fire to an all steel gas-tight tank by lightning and I know of one case where lightning was seen to strike such a tank and no ignition resulted therefrom. To prevent tank fires from lightning I am satisfied that it is only necessary to provide gas-tight all-steel construction and supply reasonable maintenance.

Another cause of tank fires is exposure to other fires, but again let me point out that here also the wooden roof is the primary evil. The gas-tight, steel-roofed tank will withstand very severe conditions of prolonged exposure. Instances can be cited where such tanks have been surrounded for hours by blazing seas of oil, and except for the loss of paint and distillation of some oil, there has been no damage. Under such conditions a gas-tight tank will act like a large still, and the vapors produced will burn from the vents like huge torches.

The subject of tank exposure both to adjacent tanks and adjoining property has been the source of much difference of opinion between certain of the fire insurance interests and the oil companies. As a result of extensive investigation the American Petroleum Institute submitted on behalf of the oil industry their findings—to the effect that gas-tight steel tanks need not be spaced further apart than one tank diameter shell to shell to provide every reasonable and safe precaution against the exposure hazard. This conclusion was

substantiated by numerous cases of actual fires.

The fire insurance interests, however, could not agree to that proposition; at least as far as adjoining property was concerned. A compromise was reached which divided oils into three general grades according to volatility and provided distances to adjoining property equal to 2, 1½ and 1¼ tank diameter depending upon grade of oil, with maximum requirements of 175 ft., 150 ft. and 125 ft. distance respectively for each of the three grades. Tank to tank spacing was permitted to remain substantially as recommended.

When this compromise was presented to the National Fire Protection Association a serious debate was raised by other fire insurance interests with still more conservative views, with the result that the matter has now been referred to a special arbitration committee for decision. * * *

At our meeting in Buffalo last year Messrs. Naylor and Ramsey of the Atlantic Refining Co. presented us with a paper on static electricity. It was demonstrated that a spray of falling oil under certain conditions, could produce extraordinary electrical discharges—sparks several feet long. I have found this to be a rare source of fire. It is a hazard, however, which may be removed by merely submerging all connections which discharge oil into the tank. The over-shot connection is a serious offender as regards evaporation loss besides being a fire hazard. * * *

Few Caused by Carelessness

It is remarkable how few tank fires are caused directly by carelessness. Only once in a great while do we hear of a tank fire being caused by the match or smoking hazard. Occasionally gross carelessnes with welding torches is the fire cause. In one instance, that I am familiar with, an employee cut into an overhead run-down line with a welding torch about 200 feet away from the run-down tank. Fire flashed back through the pipe and that ended the career of that tank.

One classification of tank fires in particular has been of considerable interest during the past year. Because of lack of evidence it seems proper to classify these fires as of unknown cause. It is possible that some manifestation of static may be the cause in certain cases, but in most of these cases nothing that we know about static and the condition under which it is produced, would apply. I believe that spontaneous ignition is the answer, at least occasionally.

We all know that in tanks containing cracked distillates, or crudes of high sulphur content, there is a considerable formation of sulphur deposit on the underside of the tank roofs. I have had some samples of this material analyzed and have found it to contain free sulphur, organic sulphides, iron sulphide and iron oxide. It is definitely known that iron sulphide when freshly formed is pyrophoric, that is, it will greedily absorb oxygen until it becomes heated to the point of incandescence.

We know that the gases given off from cracked distillates and high sulphur crudes contain hydrogen sulphide and organic sulphides. It is probable that these gases react with the bare iron, or iron rust incrustation on the inside of the tank to the extent of producing under certain conditions a considerable amount of iron sulphide. It is then supposed that this material absorbs oxygen and reaches a glowing temperature, at which temperature it may burst into flame and ignite the explosive vapors in the tank. The fact remains that tanks are set afire now and then for no reason whatever except that which might be explained by this information.

Naturally, you are interested in knowing what can be done to prevent the occurrence of this spontaneous ignition. I do not know that it can be effectively prevented. Fortunately it does not happen often. The only remedy I know of is regular cleaning, scraping, and painting of the interior of tank roofs and structural members inside of tanks where this formation occurs.

There is one detail of tank construction that has a close bearing on fire prevention. I wonder how many of us realize that vent screens as usually installed and maintained are quite infective as flame arrestors. Unless a systematic method of inspection of vent screen is pursued, it is probable that a large percentage of the vent screens at any location will be found to be clogged or corroded. In some locations, particularly on tanks containing sour distillates, I have found that it is necessary to renew the vent screens as often as once a month. A monthly inspection should be maintained on the vent screens and where gases coming from certain grades of oil are particularly corrosive, this inspection should be made at least every two weeks.

Metal vent screens will arrest flame only by reason of their ability to conduct the heat very rapidly to adjacent solid metal parts thereby preventing the formation of ignition temperature in the other side of the wire screening. If the distance from the central part of the wire screen to solid metal is too great, a single thickness of gauze will not serve, but a double or triple thickness is required. Beyond certain dimensions even a triple thickness of wire screening is unsatisfactory. In order to provide enough venting area and still have the screen dimensions suitable, it is necessary that a number of small 2″ diameter screens be provided or that the wire gauze screen be clamped between a grill work of heavy metal and that the ports in the grill work should not exceed the area of a 2″ pipe.

How to Fight Fires

After a tank fire starts there are two methods of fighting it. the first is with steam and the second with foam. Steam as it is normally applied is not effective unless the roof remains on the tank, which it usually does not. Tank fires usually start with an explosion, and then off comes the roof. In such cases if steam is applied through one or several pipes at the shell of the tank it is absolutely ineffective. Steam is of value, however, in preventing the ignition of exposed tanks nearby.

To extinguish the average oil tank fire there is only one agent which is tried and proven. That is foam. I want to call your attention to the fact that there have been quite a few failures of so-called foam systems. I do not know of a single instance where a foam system, designed in accordance with accepted standards, maintained in proper condition, and operated with fair judgment has failed to extinguish a tank fire.

Other methods of handling oil tank fires have been and are being developed. I refer to the use of water, carbon dioxide, and carbon tetracnloride. These methods as yet in my opinion are in the development stage. They do not have any record of actual fires to prove their merit.

Next to tank fires, the most frequent and expensive fires are those which occur in stills. It is not realized usually that of all the fires which occur in oil properties, perhaps 50 per cent of them occur in the distillation process. Most frequently these are small fires and are caused by small oil or vapor leaks. They are extinguished with hand extinguishers, steam jets, water hose, or by "pumping out" the still, with negligible loss. Occasionally, however, something lets go, a still cracks open, a high pressure drum explodes, or an oil line breaks and a conflagration is started.

The least leak, defect or wearing out of any part is almost certain to cause a fire. Only continual inspection and expert operation will prevent still fires.

Fire walls 24″ to 30″ high should be provided around every battery of stills as far as practical. It is usually possible to use the near wall supporting the condenser boxes as part of this surrounding fire wall. This has the double advantage of economy, and subdivision of values as it places the condensers outside of the fire wall. To protect the condensers further, and to protect any towers which may be mounted over them, a fire barrier of brick, tile, asbestos board, or sheet steel, (the latter equipped with water sprays), may be erected from the ground up, adjacent to the condensers, all openings in it being protected with standard fire doors. This forms a splendid fire barrier, protects the condensers and towers and gives advantageous position to those who may subsequently have to fight a fire there.

As far as practical by means of fire walls, it is further desirable to break up the fire areas in and among the units of any battery of stills so that a floor of hot oil pouring from a break will endanger as few adjoining stills as possible.

Particular attention should be paid to the method of supporting vapor lines,

flow lines, charging lines, in fact all oil and vapor lines. Most frequently these pipe lines are carried overhead on unprotected structural steel work. Any severe fire will bring them down in short order, often even before effective fire fighting can be commenced. These oil lines may drain other stills, and the additional fuel added to the blaze may cause it to become uncontrollable. All supports for such lines should be protected with material known to have at least a three-hour fire resistance period.

One of the simplest and most effective ways of handling a serious still fire is quickly to pump out the burning still and those which are menaced. Therefore, the importance as a fire protection measure of having large pumps for this purpose and large pumping-out lines is apparent. But it is essential that the pumping-out valves shall be equipped with remote controls so that they can be operated safely and surely—usually from the back of the condensers. Likewise, to pump out a still the tar plug, if there is one, must be up. As tar plugs habitually stick it is desirable that the still be run with these plugs in open position, reliance for closure of the pumping out line being placed on the pumping-out valves, which may be in duplicate. Remote control and frequent inspection of the tar plugs should likewise be provided so that they may be operated surely and quickly from a safe position in case of emergency.

Gauge Glass Offenders

Glass gauge columns are serious offenders. It is most often impossible to use the customary safety ball-check valve for these gauge glasses. The ball checks corrode or coke up and will not operate. Where a gauge column is necessary, a pipe column fitted with closely spaced pet cocks is safe, if in addition, the gauge connections to the still are fitted with well designed lever operated globe valves, the levers being held in open position by a chain and fusible link.

A great many still fires are the result of carelessness and are caused by pumping over when charging, or permitting water to get into the charging stock thereby causing the still to froth over. Improper inspection or testing of safety and vacuum valves, clogging of traps and run back lines are all hazards, which may be delivered by proper inspection. In high pressure stills, particularly, the importance of inspection is doubly significant.

I do not believe it is generally realized how high temperatures affect the tensile strength and physical properties of the metals used. Ordinary steel plate becomes very brittle in the two temperate zones—200 to 400° F., and 800 to 1000° F. The ultimate strength of steel increases up to about 400° F., at which temperature certain grades of steel actually become 40 per cent stronger than at ordinary temperatures. At 700 ° F. the steel has about the same ultimate strength as at 70° F. At 1000° F. it has lost half of its initial ultimate strength. The elastic limit, however, which should determine the design and strength of parts rather than ultimate tensile strength does not increase materially above its initial value. At 600° F. the elastic limit is only one-half of its value at 70° F. At 900° F. it has fallen to one-third.

Measure Thickness of Stills

It is usual to measure the thickness of the steel in different parts of a high pressure still at regular intervals because the hot oil apparently corrodes the steel until it becomes quite thin. Naturally, since steel is much weaker at the working temperatures of high pressure stills than at ordinary temperatures this matter must be watched very carefully and worn parts must be replaced before they become dangerously thin, due consideration being taken of the elastic limit of the steel at the working temperatures of the still.

As with tank fires, the most effective medium for handling a serious still fire is foam—applied this time through hose streams. At one very large plant that has had a very successful record in handling still fires, the superintendent told me he would not permit a drop of water to be used on such a fire. As the simultaneous application of water and foam will result in the water breaking down the foam it is apparent why this course should be pursued.

An obviously important factor in dealing with any fire, is the plant fire brigade. No matter how small the plant or station, the men who may be called upon to fight fires should be trained in what to do and how to do it in the emergency of a fire. Where the plant is of sufficient size a definite military type of organization should be formed headed by a fire chief who has good judgment and is a quick thinker, who knows the plant intimately from one end to the other, whose strong personality enables him to dominate such a situation and secure action and cooperation from his men.

Running the Brigade

The brigade should be organized, drilled and maintained with the idea that fires shall be controlled immediately at their start, so far as possible. The nearest man belonging to the fire brigade should give the alarm immediately. The local captain in the area should take immediate charge. He should proceed to get the other men to work on the fire using local first aid apparatus, see that an alarm has been turned, and delegate men previously selected to attend to the salvage such as saving stock.

Drills should be held once a month during paid time. The location of drills should be changed each time so that the men will become familiar with [illegible] conditions and parts of the plant. The handling of apparatus should be thorough in every respect and approximate actual fire conditions.

Fire prevention, unfortunately, is not an issue which earns money. It may prevent money from being lost, but it does not bring money in—it is negative rather than positive. Work done and money spent toward fire prevention do not aid in paying dividends, except in a negative sense. Consequently, the operating forces of many properties to whom this important matter is delegated, while admitting its importance, very frequently do little in that direction. Production claims their attention. All other matters are secondary —and in this list falls fire prevention.

A few years ago the company with which I am connected, organized a fire protection department. To obtain an accurate understanding of the conditions existing at each property, a survey was made of every building, tank, still, agitator, loading rack, etc. All the details of construction, occupancy, internal and external exposures, fire hazards and fire protection were considered. As a result of these surveys, detailed recommendations for the improvement of unsatisfactory conditions were made and submitted to the operating managements, and followed through to a "yes or no" decision.

Must Inspect Regularly

Since that time re-inspections have been made of each structure covered in the original survey at periods varying from three to twelve months for the purpose of detecting new hazards, and checking up on the former ones.

This department further has collaborated with the engineering and purchasing departments in the development of proper designs and specifications for fire protection materials and installations, thereby making use of the best materials and practices available.

Reports of fires, no matter how small, occurring on our own properties are collected and analyzed. Information and lessons obtained therefrom, which are of value, are distributed to those interested. Educational work is carried on by means of bulletin boards, direct contact, and through the mails.

It is too soon to forecast what will be the ultimate saving to the company through this work. A severe fire may occur tomorrow in spite of our precautions. It may be said, however, that with the removal of many fire causes, with the improvement of structural fire resistive conditions and fire fighting facilities, and with a keen interest in fire prevention on the part of the operating personnel aroused and kept aroused, our chances of severe loss have been considerably reduced and should continue to grow less as the work further advances, until the limit of improvement is reached—at which time, as with accident prevention, the problem becomes one of maintaining the headway accomplished and preventing retrogression.

In its final analysis, fire protection is a problem of administration and organization. This important work must be properly organized, thoroughly studied conscientiously executed, and last but not least, inspired by attention from the management if it is to achieve its deserving success

An Open Letter To Governor Bryan

From Warren C. Platt, Publisher National Petroleum News

CLEVELAND, Oct. 7

Gov. Charles H. Bryan,

State House—

Lincoln, Nebr.—

My dear sir:—

IF IT is right for the farmers to be allowed to dump their surplus products abroad at a cut price without that cut price disturbing the domestic market for those products,—and

If it is right that a price should be allowed the farmer that will cover the cost of production, and you would figure his land values and his costs on the highest war or post-war speculative basis,—

Then why should not every business be allowed the same standards? Does the constitution specify that the farmer shall get one class of treatment, better than any one else?

These are some of the points you made in your speech at Lincoln when you accepted the Democratic nomination for vice-president. I do not discuss those remarks from the standpoint of national politics, but only take them as indicating more clearly what has been in your mind during your campaign against oil and coal as governor of Nebraska. Among our readers, who are all oil men, are thousands of good Democrats and thousands of good Republicans, so we would not comment on your latest speech from a partisan standpoint, but only as it has affected all in the oil industry, Democrats and Republicans alike, yes, and even tens of thousands of farmers the country over.

You say in your acceptance speech,—

> "The farmer needs an export marketing corporation or commission so that his small surplus product which is sold in the markets abroad will not establish the price of the whole crop that he produces."

This, my dear sir, is the Utopia that all reformers have fought for and for which many business interests have worked,—the Utopia of so controlling the surplus of commodities that it will not wreck the market for such commodities. Labor has done much along this line in its union rules restricting the operation of workmen, sometimes fairly sometimes otherwise. But the theory of regulating labor surplus, or the reverse, regulating business output so that labor will always be employed, has been advanced by labor for years.

No New Theory

This theory has been urged also for years by farmers and their representatives. The whole aim of the excellent statistical work of the Department of Agriculture is to forewarn the farmers, so they will not plant too much,—more than the market will absorb at a healthy price. A laudable thing, even though farmers have paid scant attention to the prophecy of statistics at times. The present effort of the same department to have farmers diversify their crops is all to the same end, that they will not overproduce in any one product. State governments aid in this also.

Regardless of its practicability—you have in the above recommendation stated that you believe it proper to so regulate surplus as to prevent that surplus from ruining a market.

If this is fair policy for farmers, and I think you will agree it is also fair for labor, why isn't the same policy fair for all lines of business?

If you were to give a few moments to a study of the oil industry you would see that it has been troubled all the sixty years of its life by surplus and shortage, just like the farmer. I am speaking of the oil industry's raw product, crude as it comes from the well, but, in fact, a surplus of crude means a surplus of all its products.

Oil An Unknown Quantity

Our problem is much like that of the farmer, only worse. Our Department of Agriculture knows the number of acres on top of the ground, what they have been planted in in the past, what they will produce per acre given average seasonal weather, and it knows what this country has consumed the previous year, the normal rate of growth of population—all of which makes an estimate as to crop conditions workably accurate.

But no department of this or any other government knows what is under those farm lands in the way of crude oil. We don't know where it is, how deep it is, how much there is of it, nor what kind of oil it is until we find it and bring it to the surface. Various estimates have been made by hundreds of experts as to all this, but no two experts have agreed and most of them have been proved wrong.

All we know is that a price for crude which is reasonably profitable for oil flowing from ordinary wells will send a lot of people drilling for oil, many of them each year people who have just entered the oil business, lured by the fancy tales of golden profits, which are true of but a few per cent of all who enter the oil producing business. And these few per cent of lucky ones are not big oil corporations generally either, but private citizens like you and me who have gambled a few hundred or a few thousand dollars and struck it.

So, whenever the price for crude oil is good, which, obviously, is when the refiners and marketers of it are bidding against each other for it because it is scarce, a lot of people go out and drill. Somewhere under some farmer's land some people strike it. Maybe it's only a few thousand barrels, enough to balance the market demand for crude, but more frequently it is a flood of oil, more than the market can absorb.

Much is said at times about the pipe line companies marking down the price of crude when there is a surplus on the market so as to store cheap crude and hold it for a rise in the market. They do, but before they cut the price each time there are producers who are selling their crude at less than the pipe line prices. But storing cheap crude, as it is called, is a gamble, as one does not know when he will be able to sell it nor at what price. One may have to hold it in storage for years before the market will take it up, in which event the crude will have to be sold for two, three or four times or more what it originally cost if the seller would get out of it all his costs.

No one yet has found a way to regulate the wildcatting and drilling for oil. Every farmer owns his ground down to the center of the earth and has a legal right to have his farm drilled when he wants it, and every individual drilling on that land has a perfectly good legal right to go after a possible profit which may pay his debts and give him something ahead.

Regulation Hard to Achieve

The state of Oklahoma, the greatest oil state, has been beset with periods of surplus production many times. Several times in late years the state officials have tried lawful—yes and even unlawful means—to regulate the production but couldn't. They only sought to do for the oil men and the farmers of that state what you are urging the federal government to do for the farmers—control the surplus of oil so it won't break the market. The only way the surplus has been stopped has been for the market to drop to such a low level that no one will go out and drill for oil, which low level has always been a ruinous figure which has cost the oil men millions of dollars and the farmers on whose lands the wells are, further millions also.

You view with favor taking the farmers' surplus off the market so as to maintain a healthy price for his farm products, yet you would use the surplus which the oil industry has to batter it to pieces, to destroy the market for the men who have put their money in it and

the farmers who have given their lands to it.

That is exactly what you have been trying to do the past few months in your state ventures into the oil business, for the oil industry today is suffering from a surplus. If the industry could have avoided it, it would have done so, but it couldn't. Too many people went to drilling what proved to be some of the largest wells in history in California a year and a half ago, and the same has been true in Oklahoma, and other oil states. Oil experts, oil journals and the U. S. Geological Survey's statistics all warned these people they were heading for a big surplus of crude, more than the market could absorb. But they paid no attention.

Surplus Breaks the Market

So we have had a surplus these past eighteen months. It has broken the price of crude and, bit by bit, it has broken the price of petroleum products until they are all down below what they should be to return reasonable cost and interest on the investment.

As in the case of any other commodity a break in the markets is jagged. One company has more urgent reasons to sell than another and hence will mark its prices below others. You have the same illustration up and down any street of any city. One merchant needs money and puts on a bargain sale, or has found a manufacturer of some article of apparel who needs money and who makes a cut price which permits that merchant in turn to cut the price to the public. You are able to buy shirts at 75 cents and a dollar that up the street you always have to pay $2 for.

I haven't noticed that you or any other public official seizes on such a commercial situation to head a lynching party for all the merchants who don't run "fire sales" to compete with the first merchant. Why not? If an oil company should be crucified because it does not follow down on all its products everywhere to the lowest price of some unfortunate competitor who has to pull a "fire sale" to try and square himself with his creditors, why shouldn't these other merchants be hung, drawn and quartered?

"Fire Sales" in Gasoline

Why not? The cases are exactly parallel. Take, for instance, the fact that you and others could buy gasoline, at the refinery in Oklahoma and elsewhere, at prices way under the price to the consumer in your town. Why was it? Because the refiner made more gasoline than his market would absorb. He misjudged his market and what his competitor would do, just as manufacturers in other lines of business do. This was in addition to the surplus of crude oil.

Some of the refiners were in such shape they had to have money at any price. They figured it was better to take a certain loss than to lose their whole business, so they kept marking the goods down to catch the buyers. Other companies were so situated they didn't have to mark the goods down to a loss to move them, and this was true of many in addition to the Standard Oil companies. Is there any law in this land, or the state of Nebraska, or any reason anywhere, why all these other oil companies should operate at a loss just because *some* oil companies had to sell SOME of their gasoline at a loss? It was only a small percentage, estimated at 15 to 20 per cent of the total gasoline manufactured in the Mid-Continent field that was forcing the price down?

If that surplus could have been stored somewhere, if the government had established Gasoline Credit Banks, like farm land banks, if states, such as yours, had issued gasoline credit bonds as many of them did farm land credit bonds, this surplus could have been held off the market until demand had picked up, the surplus of crude had disappeared and it all could have been sold without loss to the oil men.

Why Differentiate?

If it is fair to hold the farmer's surplus off the market, why isn't it fair to hold the oil man's surplus off the market, or any other business' surplus?

Or the reverse, if it is fair for you and other public officials to take the oil man's surplus and use it against him to wreak his ruin why shouldn't you take the farmer's surplus and use it against the farmer?

Again in your Lincoln speech you said,

> "Four years ago, at the time the Republican administration came into power, the farmers and stock raisers were receiving good prices for their produce. There was a market at fair prices for land." And then further on you say certain things "cut the price of the farmers' grain and live stock in half, destroyed the market value of his lands, threw thousands of farmers into bankruptcy and spread industrial depression and unemployment throughout the country."

As I read it, you are in effect declaring that the high prices, due to war conditions, were fair prices. You are commending the methods and approving the results of the tremendous speculation in farm lands, which speculation, I believe, reached its maximum in your territory after the war. You are urging that the farmer is entitled to a fair return on that high speculative value of the land, as well as saying that the prices he got then, which were so high as to force even the more conservative farmers into an orgy of speculation, were fair and reasonable prices.

It's War Time Conduct

Consider now the conduct of the oil industry during this period of speculation in farm land values, which values you seemingly support and on which values you think today's prices of produce should be based.

During the war the oil industry enjoyed no such inflation of values as other industries and as farmers did. The oil industry, fortunately, had developed enough oil production and enough new fields to supply the demand. As the war proceeded and the requirements for petroleum products increased tremendously, the oil industry sold its products to the government and to the Allies at reasonable prices, by agreement with our government but without the intervention of the government.

But, by the time the war was over, we were threatened with a distinct shortage of oil. The threat had appeared several times during the war but by careful producing and refining methods and reduction of our domestic consumption by gasolineless Sundays, the threat was held off. But after the war we were consuming considerably more oil in 1919 and 1920 than we were producing and importing.

But even that shortage did not inflate the industry. It only raised the price of Mid-Continent crude—for illustration—from a level of $2.25 to $2.50 per barrel, which obtained during the war, to $3.50 in the fore part of 1920. The minute that higher price began to bring in even a slight exces sof crude oil the price declined. To be exact, within 8 months after production was even with consumption, it had gone high enough to reduce the price 50 cents a barrel. The production kept on climbing so that in the fore part of 1921 the price declined $1.50 a barrel in eleven days and sank rapidly until in July, 1921, it was down to $1.

The rise and fall of surplus production has raised and lowered that price since then until today, with another surplus of production on the market, the price for average Oklahoma oil is down to 90 cents to $1.10 a barrel with every indication of its going lower.

Fall To Ruinous Level

This price is unremunerative to the producer. It has brought down the price of all crude oils everywhere so that the 280,000 oil wells the country over are operating at a loss with the exception of a few score or so of new flush wells whose present initial production is so large that the price returns a profitable figure.

I firmly believe that in no other industry—including even farming—will you find the price fluctuating as quickly and as violently to the operation of the law of supply and demand as in the oil industry. You can take most any period of its sixty years you want to and see how that law has operated, emphatically and ruinously to the industry.

You also said in your Lincoln speech,—

> "The failure of the national Republican administration to enforce the law against private monopoly caused some of the states and state officials in the middle west to enter the field of commerce for the purpose of establishing competition to protect the public from the unconscionable profiteer. In this way mil-

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"Municipal and state governments should not, in my opinion, engage in competition with legitimate private business, but, when private monopoly defies the legally constituted authorities, or when government officials become corrupt and the federal government fails to function for the protection and welfare of the masses, it becomes necessary for the state and municipal governments to use all the means at their command to prevent impositions upon the public, or the result in the community and state will be I. W. Ws., bolsheviks and anarchy."

How Is Nebraska Affected?

I offer no defense for what may have been wrong in the oil industry in the past and I offer no defense for any personal misconduct. Many courts have passed on a lot of that and inflicted penalties. But please bear in mind that the affair of Teapot Dome and the California Naval Reserve, to which you evidently refer, concerns only two companies out of all the tens of thousands of oil companies in the country. These two, while large, represent only a very small part of the industry.

Furthermore neither Teapot Dome nor the Naval Reserve had anything to do with the price of gasoline in Nebraska. One of the companies indirectly interested only operates in your state in a small way and the other doesn't operat there at all. There is nothing in this to concern the price of gasoline in the state of Nebraska, as you imply it has, in order to find excuse for your official conduct—or misconduct, as it were.

It then comes down to a question of monopoly in your state. You have one Standard Oil company which is domestic to your state and operates only therein and is subject to all the laws of your state. You also have several hundred other companies, nearly all of them domestic in your state and operating only there.

Most of these companies have been built up and are owned by citizens of your state, men who have put up a real commercial battle and have been getting ahead, many of them natives of your state.

You have been generous and prompt in your public statements to charge monopoly but slow to call on the courts. You seemingly have preferred to keep the law in your own hands. Possibly you sensed the outcome of a suit in court. Your attorney general has just made a great effort in court to prove a monopoly and has failed miserably. The court has found, after a thorough trial of the case and hearing all the state's alleged evidence and its hours of argument, that there isn't a shred of evidence to show a monopoly, a price agreement or any other act contrary to law. It was a complete vindication of the oil men in your state and a striking rebuke of you and your methods. According to all ordinary rules of decency a public apology from you to the oil men is in order, but of course such apologies, in the mind of the average politician pleading for farmer votes and votes of the unthinking, are not considered good form.

Every citizen has a right to his day in court. But you have refused to give the oil men of Nebraska that right. You have sought to take the case out of the hands of the court and inflict punishment yourself. Have you done the same in other instances? Why wait for a murderer to be tried? Why not accept the word of the police for his guilt and you take him out and hang him?

If you are right in taking the case against the oil industry out of the court's hands and inflicting your own judgment, why not do the same with all other cases pending in the courts of your state? If your conduct toward the oil industry was fair and lawful why wouldn't the same conduct toward all others charged with an offense be equally fair and lawful?

You Deny Justice

You have not given the oil men of Nebraska the same treatment you give the most despicable murderer in your state. The worst crook with longest criminal record can come into your state and get a trial by a court, but you deny the same treatment to the thousands of oil men in your state who are living decent lives, who are members of your churches and your lodges, and paying their taxes and their bills, who are among the best of your citizens. You deny them the protection of the law which you afford to the worst criminal.

Your friend, Governor McMaster, up in South Dakota, treated the citizens of his state in the same way, with no more license than you have had. Officers of some of your municipalities have also usurped the functions of the courts.

The law is constantly adapting itself to new conditions. This development is slow and conservative as it should be. But the law always takes care of injustice. That is what it is created for, through government by the people. The law has been called on in recent years to consider many new things. If the conduct of yourself and other public officials towards business is maintained the law will be called upon to grapple with it. While time may be required, the law can be counted on to deal justly with it. The day is coming, if it is not already here, when the law will be invoked by citizens who have been wronged by the acts of a public official, not only to stop those unlawful acts but to obtain damages therefor. There are some legal kinks to be worked out, but the day is coming when that will be done. In that day the law will make it plain to these unlawful governors and city officials that it applies to a governor just as much as it applies to a private citizen.

You say you have done all this injustice to the oil men of Nebraska for the "masses" of your state. Most of the masses there are farmers. Has it occurred to you that you have been doing what little you could against the best interests of the farmers of some fifteen or more other states? Has it occurred to you that there are a few hundred thousand farmers over the country who are vitally interested in the price of crude oil who get a good part of their income from the oil business?

Every farmer under whose lands oil is thought to lie, gets first a rental for the bare acreage, sometimes a bonus for giving the oil lease, and always a royalty from the oil that is produced. Conservative estimates today based on even the present low prices for oil are that the farmers of the oil states are getting more than a hundred million dollars this year in cash from the oil industry—which means also the public, as it must come out of the price for kerosene and gasoline—for their royalty interest in the oil taken from their lands. They are also getting a hundred million or two as rental for their lands and as bonus for giving leases. At least one-eighth of the staggering wealth of crude petroleum taken from the ground in the past 60 years has been paid to the farmers. This would easily run into many billions of dollars.

It so happens none of it has been paid, at least no worth while amount, to the farmers of your state, because no oil has been found there. But perhaps oil will be found there. It's not impossible. What then would be your attitude toward the farmer and his interest in oil?

Will Stand On His Rights

The American oil man, Mr. Bryan—and that is not just Mr. Rockefeller but a good many hundreds of thousands of men who have nothing to do with Mr. Rockefeller—is just as much American as any other man in the country. He is entitled to just as much consideration under the constitution and state laws as any other citizen.

The American oil man asks no special privileges. He asks no favors. But he certainly demands and will fight for his rights. Among those rights is the lawful possession of his property, the right to conduct his business as any other man, farmer, merchant or politician, and the right to be spoken of truthfully, fairly and honestly by those who are elevated to high office.

You, my dear sir, have not acted lawfully, nor spoken honestly nor truthfully of the oil industry and the American oil man. I trust that it is through ignorance, but ignorance, especially in such a high office as governor of such a great state as Nebraska, is inexcusable in this day and age.

You are impressed not only with the duty of fair dealing, and administering the laws to all alike, but of knowing whereof you speak and not speaking until you know.

Your citizens are entitled to the truth and that portion of your citizenship engaged in the oil business in your state demand the truth.

Very truly yours,
WARREN C. PLATT, Editor.

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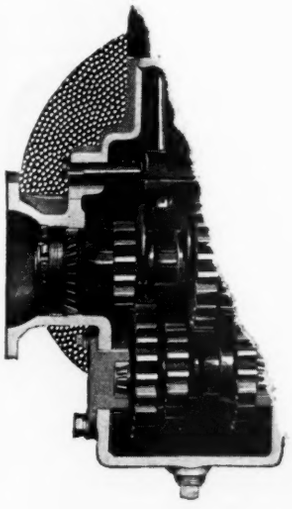

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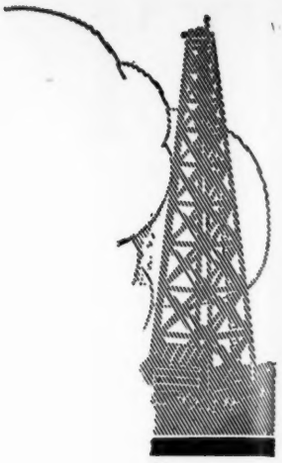

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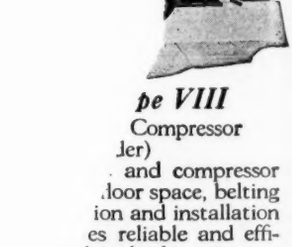

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.ELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

Oklahoma Production Off 8,930 Bbls. All Active Fields Decline

By A. F. Hinton
STAFF REPRESENTATIVE

TULSA, Oct. 4.

ALTHOUGH the International Petroleum Exposition is the center of attraction for all Mid-Continent oil men at present, holding their interest to such an extent that not much attention has been paid to routine developments, we are going to leave the oil show long enough to apprise our readers of the fact that there was a decided drop in Oklahoma production during the past week. This is cheerful news, and should be received with prolonged cheers and other demonstrations of approval.

From a statistical standpoint, as the petroleum economists say, less production is the prime requisite if the producing division of the Mid-Continent industry is to regain its feet before being counted out, after having spent most of its time during the past few years lying on its back in the center of the ring as a result of brutal blows delivered by its arch-enemy, overproduction.

After having held up at a record-breaking level, when for five weeks it averaged more than 535,000 barrels daily, Oklahoma's production fell slightly below that figure during the week just closed, and is now estimated at 532,050 barrels, or approximately the same output that marked the state's previous peak of June, 1923, a record that stood for more than a year, until Tonkawa's deep sand production orgy sent it to still higher figures. The current week's estimate reflects a decline of 8930 barrels as compared with the preceding week, when production was 540,980 barrels, and follows a decline of about 2300 barrels then shown.

All Fields Decline

Every active field in the state fell off in production this week, most of them recording substantial declines and all adding to the state-wide slump that occurred. The largest decrease was recorded at Tonkawa, where production fell from 108,500 barrels to 105,885 barrels, a loss of 2615 barrels. This decline came in spite of the completion of four new deep sand wells, bringing the total of these producers to 35. Burbank reported 11 new wells completed on acreage acquired at the sale of June 30, but was unable to continue the increase shown last week and fell off 1090 barrels to a daily average of 76,180 barrels, from 1615 wells.

Cromwell, with six new wells, bringing its total to 103, continued to slump, going off 1450 barrels and averaging 40,650 barrels daily. Stroud was next to Tonkawa in showing the largest decline, going off 2500 barrels. Stroud's 55 wells were not added to during the week, and the field averaged 11,760 barrels daily, as compared with 14,260 barrels the preceding week. This field has been declining very rapidly for several weeks, and is now down to less than half of its peak figure. Papoose, with 52 wells, the same as last week, held its own, averaging 15,520 barrels, as against 15,450 the week before. Wewoka also showed a very small difference, declining 145 barrels to 6755 barrels daily, from 76 wells, which was an increase of three.

The deep sand production at Tonkawa varied considerably during the week, showing a total change of more than 5000 barrels. It reached its highest figure of the week Sept. 28, when 32 wells produced 81,680 barrels, and by Oct 2 had dropped to 76,925 barrels, with 35 wells producing. Several of the new wells had not been completed when this estimate was made, however, as shown by the fact that the next day the same number of wells produced 80,045 barrels, which was the figure at the end of the week.

Performance of the Tonkawa deep wells during the past week was as follows:

Date	Production	No. of Wells	Average Per Well
Oct. 3	80,045	35	2,300
Oct. 2	76,930	35	2,190
Oct. 1	79,655	35	2,270
Sept. 30	82,500	33	2,500
Sept. 29	81,680	32	2,550
Sept. 28	82,160	31	2,650
Sept. 27	81,840	31	2,640

Thus the deep wells ended the week producing 1800 barrels less than at the beginning of the week, although they had increases in number from 31 to 35. The average for the week was about 80,385 barrels, which, added to 25,500 barrels estimated as the production of the shallow wells, brings the field's average for the week to 105,885 barrels daily.

Cromwell News Unfavorable

An interesting feature of the development at Cromwell during the week was the failure of the Tidal Oil Co. to find production in its test a half mile west and north of production, located in the NEc NW¼ NE¼ of 17-10-8. This well had a small showing of oil in sand topped at 3489 feet but drilled into water and looks like a very small well. It has been drilled to total depth of 3547 feet and made about 110 barrels in the last 24 hours, with only three small flows.

Another well which was looked upon as a possible extension of the field a half mile north and west is also not looking very favorable at this time, although showing for a small producer. This is the Laurel Oil & Gas Co. No. 1 Fixico, in the SEc W½ NW¼ of 4-10-8, which was reported last week as shut down on top of the sand while storage facilities were being provided. This well got the sand at 3405 feet, first oil at 3412, and has been drilled to 3424 feet, where it appears to be good for about 100 barrels daily. No gas was found, and it has flowed only when the bailer was run, the oil following the bailer out.

The Laurel well is about 50 feet higher structurally than the salt water level in the field, and apparently is located favorably to have made a good well. Its failure to find gas or more than a small amount of oil strengthens the belief now held by many geologists that structure in that field is not as great a consideration as sand condition, which seems to vary greatly in different parts of the field. While many observers are of the opinion that this well marks about the productive edge of the field, it was pointed out to the writer by one of the leading geologists of the Mid-Continent that this does not necessarily follow, as other wells in the heart of the field have performed similarly, although surrounded by big wells.

Cromwell Sand Broken

This geologist also stated that it is a fallacy to speak of Cromwell wells having more than 100 feet of sand, for the fact is that the sand itself is very thin and lenticular, being divided by small lime breaks. In most logs of wells in the field, all this formation was carried as sand as the bit progressed through alternate layers of lime and sand, thus giving rise to the erroneous belief that sand lay in a thick and continuous body. Thus it is possible that the Laurell well, in missing the sand as found in other wells in the field, may not necessarily mark the edge of production, as a well one location away in any direction may find it and come in with big initial production.

Although the Prairie Oil & Gas Co. allowed the week to slip by without

tampering with the price of crude, the Magnolia Petroleum Co. seized the opportunity when the Prairie's attention was centered upon the exposition and its luxurious booth there, to revive its its prices and to reaffirm its dedetermination not to agree with the Prairie in the mater of what it would pay for crude, nor how it would go about paying for it.

On Sept. 27, the Prairie announced new prices, and in doing so, added one grade, bringing its total to four. This being the same number of grades shown on the Magnolia schedule at that time, the Magnolia could not let that stand, so, after deliberating over it for a week it also came out with new prices, and eliminated one grade, making its total three.

The new Magnolia prices, as compared with those previously posted and with the Prairie schedule in force at the moment, are as follows:

Old Prices	New Prices	Prairie Prices
Below 28 $0.90	Below 30 $0.75	Below 30 $0.75
28-30.9 .. 1.00	30-32.9 .. 0.90	30-32.9 .. 0.90
31-32.9 .. 1.10	33 & over 1.25	33-35.9 .. 1.10
33 & over 1.25		36 & over 1.25

Thus the Magnolia followed the Prairie in cutting the price of low gravity oil, while allowing the higher grades to remain unchanged, and is actually paying more than the Prairie for oil grading 33 to 35.9 in gravity.

Wells Completed

In Oklahoma, during the week just closed, 86 wells were completed, of which 55 were oil wells, eight were gas wells, and 23 were dry holes. These compare with last week's figures, which were

Completions In Oklahoma And Kansas Week Ending October 4, 1924

OKLAHOMA

Carter County—Graham

Company	Well No.	Location	Depth	Initial Production
Magnolia	7	C SW NW SE 23-2S-3W	1940–1950	½M
Magnolia	1	C NW SW NW 23-2-3W	2522–2534	550
Twin State	1	C SW SE NW 23-2S-3W	2383–2390	30
Twin State	4	C SE SE NW 25-2S-3W	3214–3216	100

Cotton County

Steve Linson	1	C NW NE NW 14-2S-11W	1991–1998	6M

Creek County

Eastern	4	NEc SE 17-15N-8E	3755–3805	100
Waite Phillips	4	NEc NW NW 7-14N-7E	4084–4116	104
Amerada	11	SEc NW SW 7-14-7E	4095–4168	426
Skelly	7	NEc SE NW 4-14N-10E	3281–3295	50
Evans et al	1	C SE SE NW 4-14-10E	3200–3212	310
Davis et al	1	NEc SE SE 23-14N-9E	T.D.3720	Dry

Creek—Mounds

Suppes et al	1	Lot 12, Blk 23	2049–2137	50
Noble	1	Lot 10, Blk 24	2016–2095	150

Grady County

Hay-Garber	1	C NW SE 2-4N-8W	1394–1405	10M
Nichols et al	1	NEc 17-5N-7W	T.D.2500	Dry

Hughes County—Papoose

Foster-Johnson	2	C NW SW NE 4-9N-9E	3321–3334	450
W. C. Newman	1	NWc SW SW 21-9N-10E	3086–3096 OWD	30M
Sinclair	1	C NE NE SE 5-9N-9E	T.D.3382	Dry

Kay County—Tonkawa

Amerada	33	C SE SW NE 34-25N-1W	4006–4029	3034 Av. 4 days
Comar	2-W	SEc NW NW SE 34-25-1W	4099–4135	3808 Av. 6 days
Comar	7-W	C SW NE SW 35-25-1W	3915–3958	2059
T. B. Slick	3-E	C SE SW 35-25-1W	3942–4008	1680
T. B. Slick	6-E	C NE SW SW 35-25-1W	3952–3987	1800

Kiowa County

Connor et al	2	NEc NW NW 34-7N-16W	T.D.1548	Dry

Marshall County

P. H. Oil	1	CEL NW NE SW 34-6S-7E	T.D.2005	Dry

Noble County—Tonkawa

Comar	11-W	C SE NE NE 3-24N-1E	4254–4260	1760 3 days av.

Noble County

Tidal Osage	1	C NE NE NE 11-23N-2W	T.D.2863	Dry

Okfuskee County

Blakely et al	1	SWc SE 23-12N-10E	T.D.3649	Dry

Okmulgee County

A. Preston	2	SWc NW NE 36-14N-11E	2290–2320	20
Logan et al	5	SEc SW NE 8-13N-12E	T.D.2401	Dry
Becker	2	CEL NE NW 6-14N-13E	2003–2013	4¼M
Sommerville	1	SEc NE NW 28-14N-14E	1803–1836	25

Osage County

Breene-Markham	2	CSL SW 14-21N-10E	1565–1598	250
Riverland	4	CEL W½ E½ SW 14-22N-8E	2652–2694 OWD	1752
Oliphant	1	NW SE NE SW 19-25N-8E	1102–1112	6M
McKeon et al	2	C NW SW SE 3-23N-8E	2336–2422	15
Tuloma	8	C NW SW SE 10-27N-10E	1969–1999	20
Dresser	7	NW NE NW SW 27-29N-11E	909– 945	5
Beacon	4	C NW SW SE 27-29N-11E	953 – 999	120
Shaffer	1	NE SE NW 29-20N-12E	T.D.2241	Dry
McKeon et al	1	SW SE 3-23N-8E	T.D.2658	Dry
I. T. I. O.	31	SE NE NW NE 20-25N-12E	T.D.2056	Dry
Seamans	1	CSL SW 26-26N-8E	T.D.2687	Dry

Osage—Burbank

Cosden	5	SW SE SE 17-26N-6E	2887–2957	500
Pet. Drlg	10	CEL W½ E½ SW 26-26N-8E	1150–1191	5M
Carter	2	C SW SE NW 11-27-5E	2975–3030	846
Carter	5	C NW SW NW 11-27-5	2940–3015	432
Carter	7	NWc 11-27-5	2950–3004	680
Phillips	16	NE SE 11-27-5E	2935–3041	1500
Carter	2	C SE SW NE 13-27-5	2935–3001	450
Carter	3	C SW SE NE 13-27-5	2945–3000	375
Carter	4	SE NE 13-27-5	2920–2982	480
Carter	7	C NE SW NE 13-27-5	2950–3007	360
Carter	8	C NW SW NE 13-27-5	2955–3005	145
Carter	4	SE NW 13-27-5	2948–3019	160
Carter	7	C NE SW NW 13-27-5	2947–3001	250
Carter	8	C NW SW NW 13-27-5	2970–3031	275
Phillips	3	C SW SE NE 14-27-5	2999–3058	250
Phillips	4	SE NE 18-27-6	2935–2994	100
Texas Co	2	C SW SE NW 18-27-6E	2895–2973	375
Texas	4	SW NW 18-27-6	2903–2979	437

Pawnee County

Company	Well No.	Location	Depth	Initial Production
Josey	1	NEc 28-20N-6E	3089–3105 OWD	780
Josey	1	NEc SW 1-20N-6E	T.D.3570	Dry

Seminole—Cromwell

Gardner-Carter	2	C SW SE SW 9-10N-8E	3403–3452	940
Gypsy	1	C SW NE NW 15-10N-8E	3446–3548	5M, 1248
Cosden	1	SEc NW 15-10-8E	3456–3541 OWD	20M 678
H. F. Wilcox	7	C SE SW SW 15-10-8E	3435–3506	75
Amerada	6	C SE NE SE 16-10N-8E	3520–3573	270
Amerada	7	NWc SE 16-10-8	3511–3569	450
Gypsy	3	C SW SE SE 16-10-8	3503–3552	120
Independent	3	C NE SW NE 21-10-8	3531–3556	85
Cosden	1	SWc SE NW 22-10-8	3434–3451	10
Berry	3	C SE NW NE 22-10-8	T.D.3510	Dry

Seminole—Wewoka

Indep.-Sinclair	1	C NW SW SE 33-8N-8E	T.D.3376	Dry
Indep. -Sinclair	1	C NE SE SE 32-8N-8E	T.D.3200	Dry
Magnolia	1	NWc SW NE 32-8-8E	3158–3165	1181

Stephens County

Grisby	1	SEc SW NE 27-1S-08W	T.D.1895	Dry

Tulsa County

Brooks et al	1	SWc NW SW 29-19N-12E	2071–2083	35
T. B. Slick	2	SEc NE NE SW 1-17N-14E	1283–1292	35
Darby-Westland	1	NEc 13-19N-10E	T.D.2650	Dry
T. B. Jackson	1	NWc SW NW NE 4-19N-12E	T.D. 20	Dry
Kessler-Ramsey	1	NWc SE NE 8-19-12E	T.D.2223	Dry
Maples et al	1	NEc NW NW 12-17N-14E	T.D.1640	Dry

Wagoner County

Sunray	2	NWc NE SW 21-18N-17E	T.D. 920	Dry

Washita County

Sunray-Aubyne	1	SEc 33-8N-18W	T.D.2184	Dry

KANSAS

Cowley County

Lewis	3	CSL SW 31-30-6E	2860–2866	3M, 800 50 water
Empire	1	NEc NW 6-31-6E	2867–2872	677
J. A. Hull	1	SEc SW NW 24-32-4E	2319–2325	100
Alcorn	1	C NE NE NE 9-33-3E	3513–3518	500
Waite Phillips	1	SEc SW NW 30-33-3E	3243–3273	160
W. Phillips-Marland	4	NEc NW SW 20-33-3E	3232–3269	676
Midwest	1	C SW NW 10-30-2E	T.D.3500	Dry

Elk County

Anderson et al	1	C SE NE 17-29-12E	1824–1826	1½M
Pennock Oil Co	2	SWc NE SW 30-30-11E	1164–1180	200
Southwestern Gas	1	SWc SE NE 14-31-10E	1335–1342	50
Leidecker et al	1	C NW NE 24-29-11E	T.D.2065	Dry

Franklin County

Grant Colby	1	SWc NE 6-16-18E	Location Aband.	

Greenwood County

Elrod et al	1	NWc NE NW 7-22-12E	T.D.1950	Dry
Gordon-Edwards	1	SEc NE NW 11-22-10E	Location Aband.	
Mission et al	1	NEc NW 34-23-10E	T.D.2482	Dry
Loy et al	1	NWc 3-23-11E	Abandoned	
Morgan	1	NEc SE NE 18-25-9E	T.D.2506	Dry
A. E. Griffith	1	SEc SW 22-25-9E	Abandoned	
Edwards-Duncan	1	SEc SW NE 13-26-11E	Abandoned	
Williard	1	NEc SE NE 12-27-10	Abandoned	
Skelly Oil	2	SEc NE SE 15-24-12E	1740–1770	70
Hoover et al	1	SEc NW 29-24-9E	T.D.2902	Dry

Marion County

Nat. Ref.	12	SEc SW SE SE 17-21-4E	2397–2427	225
Watchorn	37	CSL NW SE 5-22-4E	2481–2485	75

Montgomery County

Goldrick et al	1	SWc NE 10-31-16E	1296–1277	125 900 water
Red Bank	2	NEc SE SW 28-32-14E	1677–1684	450
Elco	1	NEc SE NW 33-32-14E	1708–1716	310
H. T. Lamb	2	SEc NE NW 33-32-14E	1703–1710	300
S. C. Canary	1	SWc SE SE 31-34-15E	1730–1731	200

Rice County

Prairie	1	14-20S-6W	T.D.3650	Dry

Russell County

Valerius	2	SWc SE SW 8-12-15W	2968–3018	100
Streeter et al	1	SEc SW SW 8-12-15W	2950–2982	250
Valerius	1	NEc NW 17-12-16W	2992–3048	125
Valerius	2	NEc NW NW 17-12-15W	2950–3000	125

Wilson County

Zack Barnes	1	C SW SE 34-28-15E	T.D. 960	4M
Barham et al	1	NWc SW 23-27-16E	T.D.1561	Dry

Drilling Operations in Oklahoma, Kansas and N. Texas Oct. 4

	Oct. 4——Week Ending——Sept. 27									
OKLAHOMA	Loc.	Rigs	Drg.	S.D.	Total	Loc.	Rigs	Drg.	S.D.	Tota
Burbank	7	10	51	2	70	6	9	66	3	84
Other Osage	8	9	52	17	86	8	11	53	17	89
Bristow-Cushing	5	22	92	40	159	3	23	93	38	157
North Oklahoma	9	8	68	56	141	7	9	64	57	137
South Oklahoma	9	9	103	64	185	10	12	96	73	191
Muskogee		5	36	33	74	..	6	29	33	68
Okmulgee-Bristow	..	52	82	62	196	..	42	89	57	188
Tonkawa	6	12	74	10	102	1	13	75	7	96
Wewoka-Cromwell	9	37	251	46	343	13	25	251	36	325
Total Oklahoma	53	164	809	330	1356	48	150	816	321	1335
KANSAS	42	66	155	123	386	40	58	181	109	388
NORTH TEXAS										
Eastland County		3	10	16	29	..	2	11	14	27
Stephens County		23	22	37	82	..	20	30	37	87
Texas Panhandle		10	34	..	44	..	4	23	15	42
Mexia District		11	23	7	41	..	11	16	11	38
E. Texas Wildcats		7	12	34	53	..	9	8	32	49
W. Texas Wildcats		17	46	65	128	..	62	120	108	290
Total N. Texas		123	194	206	523	..	108	208	217	533
GRAND TOTAL	95	353	1158	659	2265	88	316	1205	647	2256

88 completions divided 59 oil wells, six gas wells, and 23 dry holes.

The 55 oil wells included in this week's report had a total initial production of 32,170 barrels, an average initial per well of 585 barrels. Last week, 59 wells brought in 29,869 barrels of new production, with a per-well average of 506.3 barrels.

Wells reported completed in Kansas this weeks totaled 38, of which 20 were oil wells, two were gas wells, and 16 were dry holes. Last week, there were 12 completions, divided six oil wells, and six dry holes. The 20 oil wells included in this week's report had a total initial of 5518 barrels, with the high average per well of 275.9 barrels. Last week, six wells brought in 614 barrels of new production, with a per-well average of 102.3 barrels.

Cotton Valley Extended By Quarter Mile

By Special Correspondent

SHREVEPORT, Oct 5.—The Cotton Valley field was extended a quarter of a mile farther west by the completion, Oct 4 of S. S. Raymond et al's No. 1 Coyle, in the southwest corner of the southwest quarter of the north east quarter of Sec. 21-21-10. The well made only dry gas when first bailed in from a total depth of 2567 feet, but is now making around 20 barrels of oil per day. The spray of oil seems to be increasing. This well is nine feet shallower than the Invincible Oil Company's Lindsey extension well in the northwest corner of Sec. 22, which is now making upward of 700 barrels of oil per day and is increasing daily.

The Invincible Oil Co.'s No. 2 Crichton, an offset to the Coyle well in Sec. 21 came in Oct 4 making about the same amount of oil and gas. The Invincibles well, which made oil at the start, is four feet deeper than the Raymond well and was completed at a total depth of 2540 feet.

S. S. Raymond's Coyle well is now making some salt water. It has been making considerable sand since its completion and probably has drilled itself deeper into water.

Kentucky Production Tax Law Declared Void

By Special Correspondent

LEXINGTON, KY., Oct. 6.—A decision recently rendered by Judge Ben G. Williams in the Franklin circuit court of Kentucky on the suit which was brought last April to test the validity of the state oil production tax, held that the law under which such a tax has been collected is unconstitutional and void and that the Swiss Oil Corp., the plaintiff in the suit, is entitled to recover from the state the amount of 1 per cent tax paid by the company to the state within the two years in which the tax has been in effect, but denied it the right to sue and recover for other producers. A statement of the decision has been prepared by Thomas S. Scott, secretary of the Kentucky Oil Men's Association, and is published below:

"It was sought in the suit to make demand and recovery for and on behalf of all other producers similarly situated and who have paid such tax, but Judge Williams held that there was not a community of interest and that this could not be done, dismissing the suit so far as it sought a recovery for other producers. The amount so sought to be recovered on behalf of all producers, and which, under the decision of Judge Williams, they are entitled to have refunded to them, is in excess of $327,000.

"It is expected that an appeal to the Kentucky Court of Appeals will promptly be taken by the state, and also will be taken by the Swiss Oil Corp. from that part of the judgment denying it the right to sue and recover for other producers.

"The association made an arrangement with the attorneys who brought the suit, E. L. McDonald and O'Rear, Fowler and Wallace, to represent and recover for such producers as cared to avail themselves of such arrangements, and a number of such producers have so filed their claims through Mr. Scott, the secretary of the association.

"It is pointed out that under the law under which such recovery can be had, it is only allowed as to taxes paid in to the state within two years prior to application for such refund, and that in order to stop the running of this limitation of time, application for refund should be promptly made on behalf of each producer.

"The grounds of Judge Williams decision upon which he held the law void was that it was the clear intention of the legislature expressed in the act itself, and shown by the history and contemporary construction of the legislation that the production tax was to be in lieu of all other taxes.

"Since it has been subsequently held that the oil producing property cannot consitutionally be, and is not exempted from the payment of other taxes by payment of the production tax, it is clear that the intent of the legislature has failed and the whole act, its part being inseparable, must fail.

"As this class of property has been subjected to the burden of double taxation, by the unintended operation of this act, its nullification is hailed as a welcome relief to the industry, and a simple act of justice, by which such property is left on the same basis as other classes subject to taxation."

Prairie Pipe Shipments Drop In September

Staff Special

TULSA, Oct. 4.—Shipments of the Prairie Pipe Line Co. during September were the smallest yet recorded this year, and declined 328,927 barrels as compared with August. During September, the company shipped 3,024,324 barrels through its lines, as compared with 3,353,251 barrels in August. Daily average shipments in September were 100,811 barrels, as compared with 108,169 barrels in August, a decline of 7358 barrels a day. During October 1923, which was the lowest point in recent years, Prairie shipments averaged only 80,673 barrels daily.

Shipments of the Prairie Pipe Line Co., during 1924 have been as follows:

Month	Shipments	Daily Average
January	3,942,645	127,182
February	3,475,176	119,830
March	3,688,715	118,997
April	3,747,013	124,900
May	3,658,266	118,009
June	3,547,891	118,263
July	3,617,585	116,696
August	3,353,251	108,169
September	3,024,324	100,811

NEW YORK, Oct. 6.—Charles F. Beckwith, of Farr Hydraulic Systems, Inc., under a recently made arrangement, will also act as eastern representative of Oil Products Appliance Co., Maywood, Ill.

Wilbarger Co. Thrilled By 1500-Bbl. Test

By Special Correspondent

FORT WORTH, Oct. 4.—Jumping from a production of approximately 200 barrels daily, and producing at the rate of 1500 barrels, the "little girl's well" in Wilbarger county, as the Wells Guiberson wildcat is known, has precipitated a real boom in North Texas.

The Wells end of the partnership is Miss Thelma Wells of Wichita Falls, whose slight figure clad in khaki riding breeches and shirt, like any other "field man", has come to be a familiar figure in the South Vernon field in recent months.

She has upset several traditions during the drilling of the well, which she located in the neighborhood of the ill-fated Sigler field, and the performance of her well, which she drilled a few feet deeper on a hunch, is giving the Wichita Falls district, and particularly Vernon and adjacent portions of Wilbarger county a thrill such as come few and far between.

The Wells and Guiberson well, on the A. B. Wharton ranch, got the sand at 1995 feet, and drilled 7 feet at first, the well making better than 250 barrels on the initial pump test. This was a good well and the owners, having this luck with the deeper sand, in a semi wildcat location, were well satisfied. Then Bridwell and Heydrick, Wichita Falls operators, drilled a well close by, and had to go a little deeper, but got a better well, making around 450 barrels. The Bridwell and Heydrick well is 2020 feet deep.

Following the completion of the second well in the new field, the discovery operators decided to deepen their well, not being content with "well enough". The bottom of the hole is now 2010 feet.

This 2000 foot pay is apparently the same as the 2000 foot Electra sand on the west side of the old Electra pool. This sand will vary from 1900 to 2100 feet, but to date the production below 1900 feet has furnished few sensations. The Sigler discovery well, a short distance south of the new field, was in the 1700 foot pay.

Expect Good New Field

LOS ANGELES, Oct. 4.—Geologists in this section of the state are inclined to believe that Seal Beach, which lies on the ocean front between Long Beach and Huntington Beach, is likely to be the next good oil field in southern California.

They are basing this belief largely upon the fact that the Shell Company has found oil in both its Bryant and its Bixby wildcats. The Shell field department admits that it has found oil sand, and that probably each hole would produce a barrel or two, but that water troubles, which have not yet been eliminated, have prevented production tests.

Completions Rocky Mountain District Week Ending September 27

WYOMING

Salt Creek Field

Company	Well No.	Description	Depth	Production
Midwest Oil	8A	11-40-79	2341	To be shot
Midwest Oil	21A	35-40-79	1495	To be shot
Midwest Oil	16A	35-40-79	1470	1610
Wyoming Associated	8AX	26-40-79	1505	15
Wyoming Associated	19A	35-40-79	1384	1243
Wyoming Associated	22A	23-40-79	1535	70
Salt Creek Consolidated	13	31-40-78	2440	To be shot
Salt Creek Consolidated	33AX	34-40-79	1957	To be shot
Mountain & Gulf	3A	6-39-78	2245	To be shot
Rock Creek				
Ohio Oil Co.	9 Dixon	34-20-78	3670	150
Rex Lake				
Ohio Oil	1 U. P.	27-16-77	3930	250
Grass Creek				
Ohio Oil	4 Washakie	12-46-98	1065	Aband.
Osage				
Knapp & Goldsman		6-44-64	....	25
Tom Donn Oil		.....	....	20
MONTANA				
Kevin—Sunburst				
Sunburst-Whitney-Cerey	2	4-34-2	1510	100

Gulf Coastal, Texas Completions, Week Ending October 4

Company	Lease—Well	Field	Depth	Prod.
Humble Oil & Refining Co.	Simms-Smith 56	Goose Creek	4125	1000
Humble Oil & Refining Co.	Tabb 11	Goose Creek	3465	65
Gulf Production Co.	Stateland 11	Goose Creek	3535	30
Gulf Production Co.	Davis 14	Big Cfeek	3100	5000
Gulf Production Co.	Hager-Moore 11	Orange	4340	Aband.
Vacuum Oil Co.	Miller 1	Lake Charles, La.	3900	4500

Completions North-Central Texas District Week Ending October 4, 1924

WICHITA FALLS DISTRICT

Wichita County

Company	Well No.	Lease	Depth	Production
Shaw & Rathke	3	McCarty	1700	60
Empire Gas & Fuel	4	Pierce Oil Corp.	1565	200
Sam Kruger et al	7	Kemp & Allen	1640	110
Burnett Ranch Oil Co.	5	Burnett et al.	1590	110
J. L. Elliott et al	1	Jennings	1840	Aband.
Douglas et al	3-a	Jennings	530	temp. aband
Gordon Oil Company	2	Burnett et al.	580	10
Texhoma-Perkins	2	Burnett et al—A	1810	125
Petroleum Producers	8	Maer	1250	Aband.
Bower, Bass & Dillard	6	Peeler	1660	110
Clopton & Stone	1	Bashara	2000	Aband.
Duncan & White	4	Rhoades	1280	20
R. T. Couch	9	Donehoo	1325	40
Hammond & Staley	1	Willis	1650	Aband.
Darr & McDorman	1	Jenne	1800	Aband.
Keuhn et al	1	Myers	1360	10
Grayce Oil Company	10	Daniel	1320	15
Wilbarger County				
Bridwell & Heydrick	1	Dill et al	2020	450
Wells & Guiberson	1	Wharton	2010	(drilled deeper) 1500
Archer County—North				
J. C. Maxwell et al	1	J. R. Parkey	1805	Aband.
Ray-Featherstone Oil Corp.	7	A. P. Nichols	1626	35 bbls., 2-3 s. w.
Sun Oil Company	1	W. L. Andrews	1520	Aband.
George S. Anderson	1	E. M. Hughes	600	15
Magnolia Petroleum	3	W. F. Parrish	1595	50
Murchison, Fain & Howard	1	L. F. Wilson	1620	75
Humphries, et al	5	J. H. White	1620	50 bbls., ½ s. w.
Robertson & Muse	1	W. F. Parrish	1585	100
Archer County—South				
Shamrock Oil Corp.	11	Richardson-B	1330	175
Consolidated Oil Co.	2	Davis	1100	320
Consolidated Oil Co.	2	Ragle-D	1090	320
Murchison and Fain	6	Goldsmith	1350	30
Murchison and Fain	1	Harmel	1320	100
Jeffers & Newby	1	Hausler	1110	40
Texhoma Oil & Ref	1	Hausler	1125	50
Stanley McGregor et al	5	Llewellyn et al	1770	Aband.
Panhandle Ref	1	Llewellyn et al.	1400	35
Clark & Harbin	1	Echols	1320	110
W. J. Green et al	1	Abercrombie & Taylor	1800	Aband.
Petroleum Producers	1	Llewellyn et al	1480	Aband.
Mitcham & Logan	1	Mrs. E. Taber	1540	Aband.
Clay County				
Lone Star Gas Company	20	Martin	2000	Aband.
Callendar & Cumley	1	Stine	1790	Temp. Aband.
GENERAL RANGER TERRITOFY				
Young County				
Reed & Taylor	1	Graham	2915	Aband.
Logan et al	1	Hulse	1160	Temp.aband.
Cheney & Anzae	1	Driver	2715	Aband.
900 Oil Company	3	Benson	820	40
Throckmorton County				
Humble Oil & Ref	1	Stubblefield	3195	making around 50 bbls. To drill deeper.
Eastland County				
Adams et al	1	Dawson	1470	25
Stephens County				
Rochelle et al	2-a	Sweeney	3290	75
Critten & Lacey	6	Cobb	3260	1400 bbls. oil and 12 mi. ft. gas
Petroleum Operators Assn	1	Deaver	3380	junked
Lewis Oil Company	2	Stoker	3855	junked
Mid Kansas Oil & Gas	4	Lowe, Acct 2	3240	90 bbls., shot 100 qts.
Brown County				
Maher Bros.	1	Bohara	2260	Aband.
Gillman et al	5	Newton	1310	Aband.

Union Oil Co.'s Wellington Discovery Making Oil At Casing Head

By Special Correspondent
DENVER, Oct. 2.

NEWS from the Colorado fields showed up much better the past week as compared with the previous week when a number of important failures were announced.

The discovery well of the Union Oil Co. of California on the Wellington dome in northern Colorado has commenced to make oil at the casing head after being shut in for ten months except for gas taken off for drilling purposes. The re-appearance of the oil confirms the opinion of geologists that the dome will be an oil producer and revives the predictions that the Wellington-Fort Collins district is going to be one of the biggest light oil fields in the country.

Utah is showing up somewhat better in its wildcat operations and the Midwest interests have a good showing of gas and oil in the shale above the Wall Creek sand in its Grand county test on the Cisco fold.

New Mexico has little to offer except that a well 30 miles east of the Hogback dome which had a showing at a shallow depth has developed into a flowing well after being shot.

The Midwest is buying a lot of equipment with which to commence pumping wells in the Salt Creek field in Wyoming and is also preparing to drill deeper the test which last week came in for nearly 6,000 barrels of flush production in the Lakota sand. Reports that the well was turning to water are denied and four new tests on the flanks of the Salt Creek dome are being started which will give some indication of the the productive area of the new sand.

Colorado

The discovery well of the Union Oil Co. of California on 31-10-68, Wellington dome, Larimer county, Col., which blew in as an 82,000,000-foot gasser at 4275 feet Nov. 11, 1923, before the tools had reached the sand, and which blew wild for 49 days before it was finally brought under control, has commenced to make oil. The quantity is small, probably 50 barrels a day, but the manner in which the oil is coming in indicates that the development is one of extreme importance and fraught with immense possibilities.

The gas in this well was perfectly dry at first, but after it had blown without restraint for three weeks it began to spray some oil which coated the landscape for miles around. The pressure at that time was 1240 pounds to the square inch. Nobody knows how much oil the well was making before it was capped but officials estimated it at not less than 250 barrels a day.

The company installed an elaborate system of traps to separate the oil from the gas before using the latter for fuel in drilling other wells, but when the gasser was finally shut in, the gas again became dry and there was no signs of oil in it. There was no use for the traps. The pressure of the gas had, evidently stopped the entraining of the oil in the sand and held it back from the vicinity of the well. Only such gas as was needed for the firing of the company's own boilers has since been released.

Two months ago the company's Mitchell No. 1, a mile to the south of the discovery, blew in at 4216 feet, before it reached the sand, with an open flow of gas and pressure about the same as the No. 1 well. It was, likewise, a dry gas; but the color of the vapor began to change within a few days and gave indications that it might turn to oil quicker than the discovery. However, it was shut in before any pronounced change had taken place.

Some of the leading geologists of this district, after examining the data on the two wells, came out definitely with the statement that the Wellington dome will be an oil instead of a gas field. The fact that oil is now forcing its way through this enormous gas pressure and to the small opening in the valve head, goes a long way to confirm that opinion. The traps will be put into operation within the next few days. One authority has figured it out that only 1-120th of the capacity of the well is now being taken off and that the gas is coming through a 4275-foot column of oil which would indicate an oil capacity of 6000 barrels a day for the well. If he is anywhere near right, it looks as if the Wellington dome will be a big oil pool.

May Be One Big Pool

But that is only part of the story. Eleven miles to the south of the discovery, on the Fort Collins dome, the company's Whitaker No. 1 came in on August 7 at 4475 feet as an oil well of undertermined capacity, because it has not been allowed to flow, but which is estimated at all the way from 3000 to 10,000 barrels. It is actually making 800 barrels a day from between casings with the valve on the inner casing tightly closed.

On the Douglas Lake dome, immediately west of the saddle between these two structures, the company's initial well is down 3900 feet and has had good showings of oil indicating that it will come in as a producer. The 3 wells on what has generally been described as 3 separate structures would indicate that there will be a large productive area even if the structures are separate, but there is a growing impression that drilling will show the three to be one large pool.

But the indications point strongly to the field being much larger than originally supposed. The Union Oil Co. of Colorado is drilling a wildcat on the NE¼ of 8-9-68, more than 2 miles southeast of the discovery on the Wellington dome. It is down 4200 feet. The boilers have been moved back, the forge has been taken from the derrick floor and a control valve is ready to be placed on the 6¼-inch casing as soon as it is run.

This well is outside the closing contour as shown by the original maps. If it comes in as a producer, it will show that the Wellington pool is larger than at first believed. Connect that up with the immense gas pressure on the top of the dome and with the large producer on the Fort Collins dome 11 miles to the south, and it is easy to believe a statement made this week by an official of one of the big companies that the Wellington-Fort Collins district is going to prove to be one of the largest oil fields in the country.

The Union Oil Co. is evidently much pleased with the outlook for it is starting on an extensive drilling campaign, is building a permanent camp, warehouses, storage yards and facilities which indicate that big things are anticipated. It is starting five additional wells on the Wellington dome and just as soon as it can get them under way, some more will be started on the Fort Collins dome.

Showing Near Berthoud

All the good news for the week does not come, however, from that district. The Midwest Refining Co. feels very confident of opening a new field in the vicinity of Berthoud, 21 miles south of Fort Collins, and also in Larimer county. This company is drilling a test on 16-4-69, three miles west of Berthoud. Early in September this well began making 2,000,000 cubic feet of wet gas from the shale at around 3000 feet. The casing was run at 2995 feet

and the gas was mudded in and the casing cemented. Last week, the plug was drilled out and the gas came in again.

At 3137 feet the flow increased to 4,000,000 cubic feet and with it was about 10 barrels of green oil. The bottom of the hole is still estimated to be more than 150 feet of the Frontier (Wall Creek) sand and 700 feet above the first sand in the Dakota, the producing horizon at Wellington. The Frontier has never produced oil in Colorado. The outlook for the test is exceedingly promising and if it comes up to expectations it will result in renewed wildcatting all along the eastern front of the main mountain range.

All the news from Colorado is not, however, so favorable as that from the central part of the state. The T. S. Hogan test on 16-5-94, West Axial dome, Moffat county, 18 miles west of the Moffat dome, encountered water in the Dakota sand at 1050 feet. This was the shallowest drilling of any of the series of structures in northwestern Colorado and held out great promise. In fact, most of the large operators had been buying protection acreage under the belief that the structure would come in as a producer. The Wall Creek sand was found at 630 feet and while it carried water as does that stratum in all the wells, it had a good showing of gas which was looked upon as being very favorable. The hole will be drilled on down as a test to the Lakota sand expected within 150 feet or less below the bottom of the Dakota.

The series of recent failures in northwestern Colorado has cast a gloom over the operations, but the companies are going ahead with their programs. Several of the wells are going to be drilled deeper to see what may be found in the lower sands of the Dakota series and a few of them probably will go on down to test any sands in the Jurasic and possibly as deep as the Pennsylvania.

The Transcontinental Oil Co. is one of the companies that will not stop with the results so far encountered. Its test on 32-4-89, Beaver Creek dome, in Routt county, 12 miles east of the Moffat dome, found water in the Dakota at 3200 ft. The sand was 106 feet thick. It was then drilled down to 3380 feet and found more water. It was generally believed that the second sand was the Lakota but the Transcontinental officers do not accept that conclusion. The hole has been redued to 4¾ inches and too small to continue with cable tools. It is having a rotary shipped from Arkansas which will be substituted and the hole will be carried on down as long as depth can be made and there is any chance of finding anything.

The Texas Co., on the Moffat dome, is also preparing to go deeper in its Weyand No. 1 located 3500 feet to the north of the discovery which found water in the Dakota at 3835 feet.

Some more unfavorable news for the week was the announcement that the Standard Oil Co. of California, drilling 19-16S-48, in Cheyenne county, on the extreme eastern side of the state, drilled into the Dakota sand at 1190 feet and found it to contain pure artesian water. However, the test was started with a view to going down to the Pennsylvania. The water has been cased off and drilling is continuing.

New Area In For Play

The newest Colorado area to come in for a play by the wildcatters, around Wray, in Yuma county, near the Nebraska line, is going to be given a deep test by the Mutual Oil Co. The Mutual has made a deal whereby it has secured 6000 acres including the tract upon which a well on 20-2N-43 was drilled into a gas sand at 1650 feet several months ago by the Midfields Oil Co. The gasser is capped but had a flow of about 4,500,000 cubic feet with a pressure of 450 pounds to the square inch. The Mutual test will be 80 rods south of this well. The Midfields has been trying to open a field in Yuma county for several years and 3 wells drilled to the north of the last one all showed gas though they are believed to be off structure.

The Pipe Line Situation

Another application for a permit to build an oil and gas pipe line in northern Colorado was filed with the Public Utilities commission this week by Daniel H. Freel. He wants a permit to build a line from the Wellington dome to Fort Collins and points on the Union Pacific and Colorado & Southern railroads. Freel formerly was at the head of the Producers & Refiners pipe line department and is an old-time pipe line builder. Some time ago he organized an engineering company and it is generally believed that he represents some large company, probably the Union Oil Co. of California.

It looks as if the Prairie Oil & Gas Co. is going to wait a while longer before it starts work on its projected line from Craig, Colo., to Parco, Wyo. A man named H. E. Gregg filed a protest with the public utilities commission against the granting of the permit and the hearing has been postponed until Oct. 22. When the Prairie filed its application, it expressed a desire to begin work on the line at once but since then there has been a change in the northwestern fields which has created a doubt as to the quantity of oil that will be available for transportation and the company will probably wait until it is more definitely known what the fields will make in the way of production.

Utah

Utah is coming more prominently to the front as a wildcatting state as a result of more recent developments. The Midwest Refining Co., drilling for the Utah Oil Refining Co., on 25-20S-21E, on the Cisco fold, just east of Thompson, in Grand county, ran into a showing of oil and gas at 1900 feet, just above the Frontier, or Wall Creek, sand. At 1936 feet, the flow of gas increased to between 4,000,000 and 10,000,000 cubic feet. The Dakota sand, the objective, is expected at 2500 to 2650 feet. The company has 10,000 acres on the structure which has a closure of approximately 350 feet.

Thirteen miles southwest of the Wyoming corner, on 6-2N-6, east of the town of Coalville, and 125 miles northwest of the Midwest operations on the Cisco fold, the Ohio Oil Co. is very much encouraged with the showing in its test well which at present is fighting water trouble at 3110 feet. At 2260 feet, the well had a showing of 2 to 5 barrels and at 2935 feet it had another showing of oil probably 30 barrels. Beneath this last showing it had some more water which is now being shut off. The objective sand is expected at an early date.

Wyoming

Wyoming interest still centers primarily in the Lakota sand discovery of the Midwest Refining Co., drilling on a lease held by the Midwest Oil Co. in its No. 34X on 23-40-79, in the Salt Creek field. This well was reported a completion at 2546 feet with an initial production of 5974 barrels. After flowing a few hours, it showed about 15 per cent emulsion and some free water and was pinched back to 2000 barrels and later to 200 barrels, when it stopped showing water and made clean pipe line oil. It has been rumored since then that, when the well was again opened up, it commenced to make more water but Midwest officials say there is nothing to the report. In any event, the well is to be carried on down through the Sundance sand and possibly the upper sands in the Pennsylvania of which there are possibly 4. The 8¼-inch casing was set on top of the Lakota.

The extent of the productive area of the Lakota sand will probably be shown by other deep tests getting under way. The Producers & Refiners will drill on 15-40-79, on the northwestern side of the dome, and on 30-40-78, on the northeastern side. The Mutual Oil Co. will drill on 2-39-79, on the southwestern side, and the Texas Co. will make a test on the southeastern flank on 19-39-78.

The Midwest is getting ready to increase the number of pumping wells in the Salt Creek field by purchasing large quantities of supplies. These include 300 motors for pumping wells by electricity, generators, transformers and connections, and 100 steel pumping derricks. It has been a large buyer of derricks on several occasions in recent months. The power will come from the big electric generating plant which the company is building to the north of the field. Salt Creek production has been steadily declining for some time as the gas pressure went down but it is generally expected that when the wells are on the pump the production figures will again begin to climb.

Readjustment Is Narrowing The Margin Between Crude And Retail Prices

By V. B. Guthrie
STAFF REPRESENTATIVE

CLEVELAND, Oct. 6

THE action of the Gulf Refining Co. in instituting a 3-cent reduction in its tank wagon and retail gasoline prices over the 22 or 23 states in which it operates, which reduction was met by the Standard and other marketing companies, accentuates the condition into which the marketing branch of the oil business has been drifting the past two to three years.

There has been much talk and criticism of this interest or that, or some particular condition in the oil business, being responsible for the demoralized condition of the gasoline retail markets this year. Yet, upon analysis, the question comes up as to whether the cause has not been an underlying economic condition, which will continue until a natural readjustment is worked out.

In a nutshell, the marketing branch of the oil business must go through the same readjustment, following over expansion, that the Independent refining business has been working out the past few years.

Graphic Illustration

As a graphic illustration of what is happening study the chart reproduced with this article. This chart shows relative courses of the Chicago tank wagon market, the Group 3 price for U. S. Motor (navy) gasoline in tank car lots and the price of Mid-Continent crude in cents per gallon over the last four years or so. Notice how consistently for the past four years the margin between the price of the raw material, crude oil, and the tank wagon market, has been narrowing. Notice also that the narrowing of this margin has come about almost entirely in the margin between the cost to the refiner of his crude and his selling price, and the margin between this price at which the jobber buys and his tank wagon market has remained fairly consistent, though showing a tendency to narrow to a hardly noticeable degree. While the chart is based on the Chicago tank wagon market only, the figures for any other point would show about the same relationship, it is probable.

Lower Refining Cost

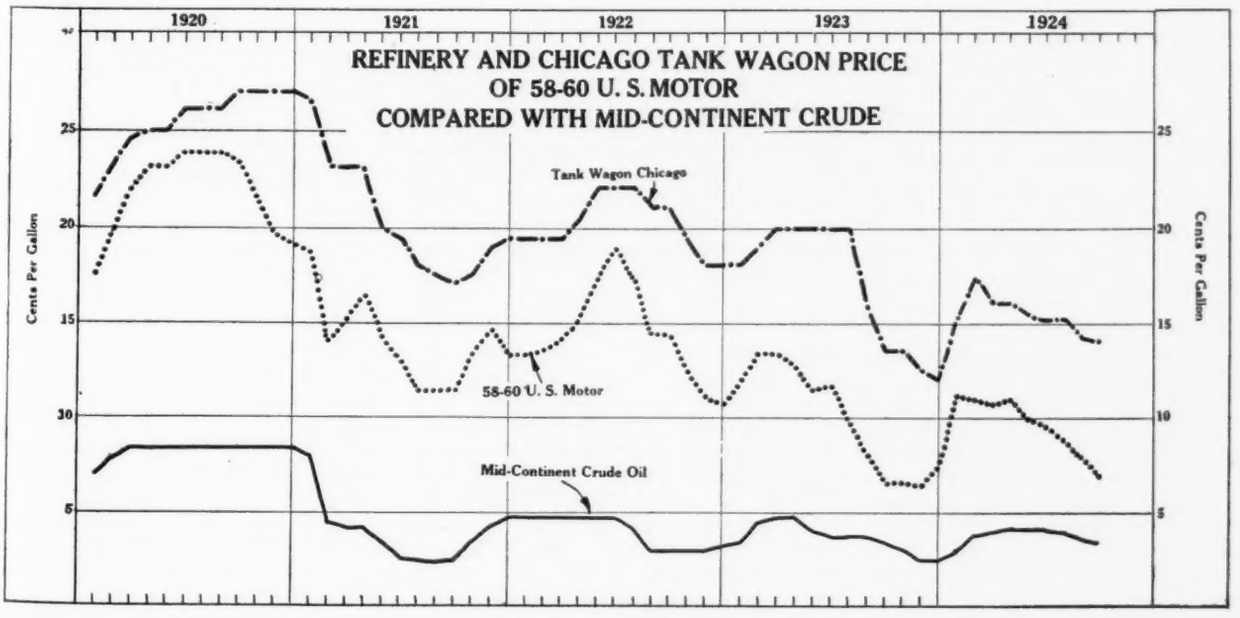
Some part of this diminishing margin for the refiner's operations is probably due to his application of more efficient refining, particularly the use of cracking processes enabling him to get a higher yield from his crude at a somewhat lower manufacturing cost per gallon. In the main, however, the diminishing margin for him represents the struggle the Independent refiners have been going through during the past few years, following their over-expansion in the period just after the war, a struggle that will result in the survival and establishing on a sound basis of those plants which are able to operate on the most efficient and economical basis.

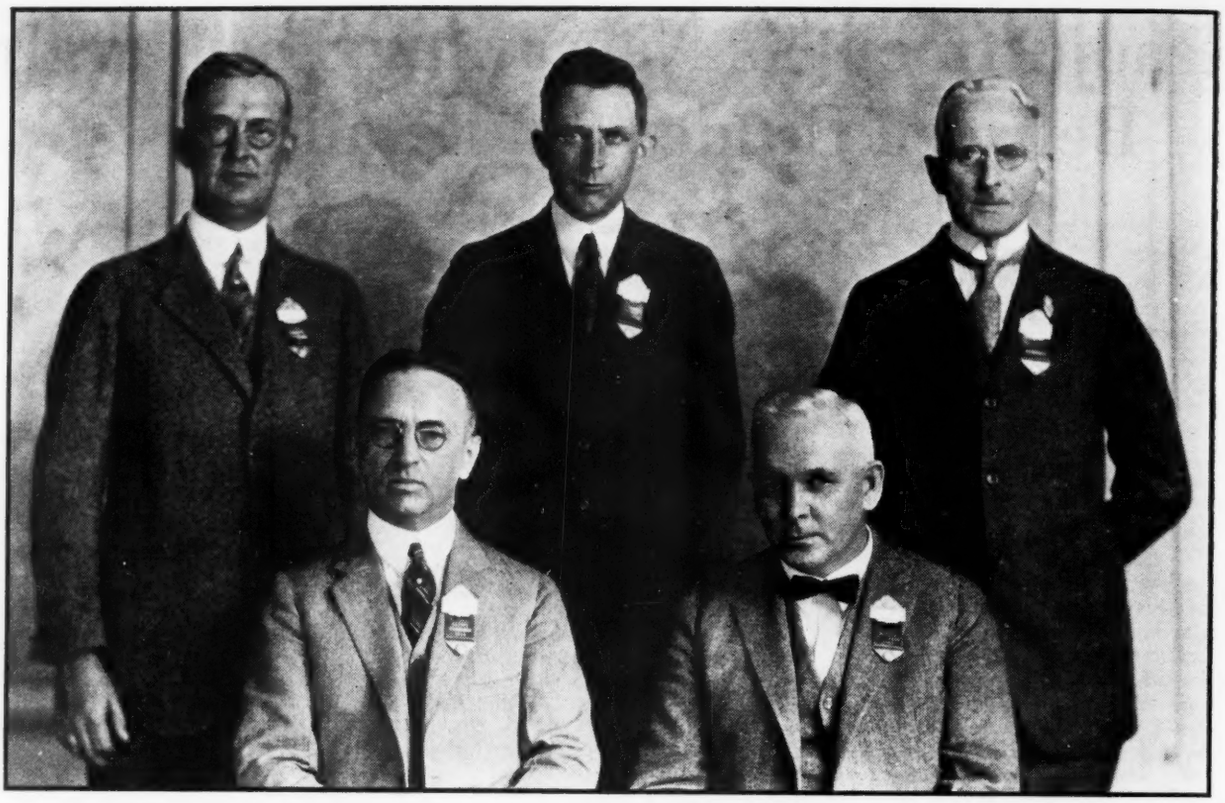
The question comes up as to whether the marketing branch of the oil industry is not entering into some such period of readjustment as has confronted the refining branch. The period of long margins which the jobbing branch enjoyed up to and including part of this year had the natural effect of attracting new capital, new companies into the business and particularly individuals unfamiliar with the peculiarities of the oil industry. In the intensive scramble for business on the part of these new and the established companies, the resulting natural economic condition was for price-cutting to be indulged in. This was particularly the case with the newer companies, which were not hampered with marginal contracts, but were buying at the relatively low tank car market, with more of an operating margin than the established companies, which were buying partly at least on marginal contracts, or were themselves refiners as well as marketers and must charge against refining costs, and perhaps crude cost, part of the long margin the marketing branch enjoyed.

Tried Various Methods

The marketing industry has tried meeting price conditions as they existed locally without changing their published quotations, as far as the tank wagon markets were concerned, and by putting a schedule of prices into effect for deliveries of various amounts. There has been a tendency also to increase the differential to the service station, either openly or otherwise. Certainly that differential is larger in many districts than the old 2-cent differential of a few years ago, though very likely no more than the operating costs of those stations would warrant.

The result of this has been principally to work a hardship on marketers buying on marginal contracts based on





Officers of Petroleum Section, National Safety Council—Sitting on left, E. J. Senne, new chairman; right, D. J. Wallace, retiring chairman. Standing, left, J. D. Bright, chairman, Mid-Continent division; center, Roy W. Kelly, chairman, Pacific division, and right, Thomas W. Waddington, chairman, Atlantic division

the open tank wagon markets, and to put them in a state of mind where such contracts will be pretty largely discarded in the future. Also one effect of the readjusting of wholesale or tank wagon prices to a greater degree than service station markets were affected has been to induce the marketing company to establish more and more its own stations where it could take advantage of the larger margin to this outlet, which has been something the public has not been able to understand, with the existing adequacy of these retail facilities.

It is a question whether the Gulf Refining's 3-cent reduction, particularly in view of the promptness with which it was met by other marketers in the same territory, is not a general recognition that the readjustment in the marketing branch of the industry has to come about through reductions in retail prices. Whether such reductions allow a profit to all the companies in the business, is not the first consideration in such a readjustment. At present, in some territories present retail prices are forcing marketers to operate in the red. The same sort of readjustment has forced refiners to operate in the red, on their gasoline business at any rate, over considerable periods.

Regardless of the extent of the readjustment the marketing business may face because of its tremendous expansion the past few years, the marketing companies which come through in the best condition are going to be the ones which employ real principles of salesmanship and management, rather than go after the largest volume of business, regardless of the price at which they get it.

August Gasoline Demand Breaks Records

WASHINGTON, Oct. 6.—All previous records for gasoline consumption were surpassed in August when domestic demand totaled 819,467,892 gallons, an increase of 29,801,302 gallons over consumption in July, which was also a new high record month, according to statistics of the Bureau of Mines. Gasoline production in August was 755,779,688 gallons, a daily average of 24,379,990 gallons, representing an increase in daily average production over the previous month of 445,319 gallons or 1.9 per cent, and an increase of 16.5 per cent over August, 1923.

Stocks of gasoline on hand at refineries on Sept. 1 were 1,311,020,845 gallons, a decrease from the previous month of 159,902,356 gallons. Imports and exports increased during the month. At the August rate of consumption gasoline stocks on Sept. 1 represented 50 days' supply, as compared with 47 days' supply available on Sept. 1, 1923.

Production of gas and fuel oils in August amounted to 1,167,211,159 gallons, which establishes a new high record production for these oils. This is an increase in production of 64,425,316 gallons, or 5.8 per cent over July. Stocks of gas and fuel oil also broke previous records, there being 1,658,670,957 gallons in storage on Sept. 1, which is an increase of 52,719,473 gallons.

August kerosene production totaled 204,106,726 gallons, a daily average of 6,584,088 gallons, representing an increase of 5.1 per cent over the daily average of July. Kerosene consumption increased 26.5 per cent over July.

Output of lubricants during August amounted to 92,761,392 gallons, a daily average of 2,992,303 gallons, showing an increase of 6 per cent over the daily average production of July. Stocks on hand and domestic consumption showed very little change during the month.

The 265 refineries reporting to the Bureau of Mines during August, with an aggregate daily crude oil capacity of 2,268,472 barrels, ran to stills a daily average of 1,763,165 barrels of both foreign and domestic crude oil, or 77.7 per cent of their daily operating capacity, an increase of 1.9 per cent over the refinery operations of the previous month and a decrease of 0.7 per cent from the refinery operations of August, 1923.

Ask California Branch Of Amer. Geologists

LOS ANGELES, Oct. 2.—Members of the California branch of the American Association of Petroleum Geologists, in session here a few days ago, organized the Pacific Coast Society of Petroleum Geologists.

S. H. Gester, a Standard Oil Company geologist from San Francisco, was elected chairman of the new organization. Dr. R. R. Morse, professor of geology in the University of California was made secretary of the Society. The chair is to select an executive committe of three.

Before adjournment the society drafted and adopted a constitution.

National Council To Co-ordinate Safety Work With Institute's Endeavors

By Roger B. Stafford

STAFF REPRESENTATIVE

LOUISVILLE, OCT. 3

A CAREFUL workman is the best safety device.

This epigrammatic sentence afforded the theme for a half dozen or more addresses and discussions at the fourth annual meeting of the petroleum section of the National Safety Council during the last three days here.

And the petroleum section which was made up of more than two score oil safety men, adjourned yesterday determined to attain the preachment contained in that pithy sentence.

The safety movement apparently is gaining great headway in the oil fields, refineries and distributing plants. Further extension of activities aiming to safeguard the lives and bodies of the men in the industry and to conserve the physical properties against preventable damage and loss, is expected to follow the conference and exchange of ideas here this week.

The section will tie its endeavors in with safety activities of the American Petroleum Institute. It was pledged the support of the institute by W. R. Boyd, Jr., assistant general secretary and counsel of the institute and it elected as secretary Dr. R. P. Anderson, the institute's technologist.

Senne Made Chairman

E. J. Senne, safety supervisor, Vacuum Oil Co., New York, who was secretary of the petroleum section during the last year, was elected chairman, succeeding D. J. Wallace, Humble Oil & Refining Co., Houston.

In order to facilitate rapid extension of safety work in the oil industry, the working structure of the petroleum section was re-organized. During the section's three years of activity there have been vice-chairmen in charge of the safety work in the producing, pipe line, manufacturing and marketing divisions, all functioning directly with the general chairman. Henceforth, there will be three regional chairmen and under them will be sub-chairman representing the four branches of the industry in addition to membership and publicity, program, and bulletin committees.

The section roughly divided the country into three great sections. One will take in the Pacific coast states and its chairman is Roy W. Kelly, Associated and Pacific companies, San Francisco. The second section will be the Mid-Continent and its chairman is J. D. Bright, Texhoma Oil & Refining Co., Wichita Falls, Texas. The third is to be known as the Atlantic and its chairman is Thomas W. Waddington, Bayway refinery, Standard Oil Co. of New Jersey, Elizabeth, N. J.

Several details are to be worked out in the alignment. At present the Rocky mountain territory is unattached. It is probable that this may be linked to the Mid-Continent region because of the connecting link afforded by the Sinclair pipe line. The Chicago district refineries may be placed with the Mid-Continent group but there is a chance that they may be grouped with those in states farther east, the Atlantic.

The work of the petroleum section of the National Safety Council will be co-ordinated with that of the Institute by Mr. Senne and Dr. Anderson and through the co-operative effort it is expected that the safety endeavor will be extended much faster than in the last three years even though its growth has been rapid in that time.

It is planned to hold at least two regional meetings each year in addition to the general meeting in connection with the National Council's annual convention. Mr. Kelly is directing a movement to publish a handbook on standard safety methods in all of the four divisions of the industry and this book may be published within the next year. The section is now showing safety films in all fields of the Mid-Continent, showings being made at two different points six nights each week.

An address on "Fire Prevention in Oil Properties" was delivered by F. A. Epps, manager fire protection department, Tide Water Oil Co., New York, at the opening session of the council Sept. 30. (This is published in main on page 32-A, this issue.)

Mr. Boyd of the institute followed with a paper entitled "The Oil Industry's Responsibility for Safety" in which he showed that the number of accidents occurring in the handling of petroleum was small when the vast volume handled was considered. (Paper published on page 37, National Petroleum News, Oct. 1.)

Spread Idea in Mid-Continent

Mr. Wallace in discussing safety methods in the production fields said that in a short time there would not be a drilling crew in the Mid-Continent but what would be familiar with safety methods through the medium of the two motion picture films. Another film which was recently made through co-operation with the Bureau of Mines will soon be ready for showing, it was announced.

Mr. Wallace said his own company, the Humble, hoped to form a safety committee in each field. Committeemen will be identified to the field workers by a distinctive button which will be a mark of honor. All committeemen must be adept in first aid work as well as know preventitive methods.

He recommended to producing companies that they sell the foreman of gang pushers on the safety idea. He said that where a new field was developing and it was necessary to put on untrained workmen that meetings should be held to develop the safety thought.

T. N. Shaw, safety manager, Midwest Refining Co., Casper, said the experience of his company was that accidents occurred more frequently among the "boomers" than among the experienced hands. H. W. Bogges, Sinclair companies, Tulsa, coincided in the idea that safety work was a process of evolution. He said they had put over the safety thought with executives, then with superintendents and foremen and now were educating the men in safety work.

Midwest's Organization

The Midwest, Mr. Shaw said, has a general safety organization and safety committees to which men are elected every six months. Once elected the employe becomes a life member, thus steadily increasing the number of safety

Belt And Cable Save Workmen Who Fall

LOUISVILLE, Oct. 3

SAFETY men in the production division say they have difficulty in getting many employes to use safety belts when working in the top of the rig. The workers complain that the belts hamper their activity, and often fail to attach the belts to the rig after wearing them to the top.

Humble Oil & Refining Co., according to D. J. Wallace, has stretched ⅜-inch steel cable from one corner post to another in its rigs on which a strong steel ring is strung. Safety belts are equipped with 10 feet of cable and a hook which may be snapped into the ring. This allows the workman to have ample leeway for whatever task he is doing and should he slip, the fall would not be great enough to do any injury.

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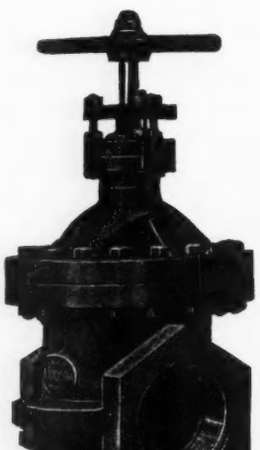

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exponents in the company's organization. It is the intention eventually to make every employe a safety man, he said.

Use of bulletin boards was essential to the spreading of safety information, several speakers declared. Brevity in conveying the message with the judicious use of art, cleanliness of the bulletin and the board, and regular postings, were recommended as means to make the bulletins most effective. The Standard of New Jersey shifts the position of the posters on the boards to attract additional attention, Roy S. Bonsib, chief safety inspector of the company said, but the Standard of Indiana places bulletins squarely in the center of the board, F. C. Singleton, safety director, retorted.

Several companies use their house organs in getting over the safety ideas. It was deemed better to use a small space regularly in the house organs rather than devote one entire issue occasionally in presenting the safety thought.

Form of Organization

William V. Winslow outlined the form of safety organization in The Texas Co., with which he is affiliated. This organization consists of a central committee looking after safety work in the company's properties in the south and a northern committee functioning in the north.

"For plants having between 500 to 5000 employes," Mr. Winslow said, "we find the most effective method is to have a general plant safety committee consisting of the heads of the larger departments. The size of this general plant committee varies from about 10 to 15 members. It is headed up by the assistant superintendent of the plant who attends central safety committee meetings in the south twice a year. Under this committee's direction are a number of standing sub-committees, arranged to inspect definite departments, although in some cases, they are assigned a very wide range of duties. As an illustration, the work assigned six sub-committees at one of our large refineries is as follows:

"Laboratory or chemical department.

"Mechanical—which takes in the various shops of the plant.

"Shipping—which covers the safety of loading racks, barrel house, cooper shop, etc.

"Pressure stills.

"Construction and maintenance—which covers the safety of various crafts engaged in general construction and maintenance work.

"Manufacturing—which takes in various plant operations on stills, agitators, wax plants, etc.

"The personnel of the sub-committees is very important. At the larger points each sub-committee consists of six or seven members. At smaller points, from three to five members. These men, as a rule, are foremen or subforemen appointed by the local chairman. It will be seen that at a large

refinery the total number of committee members whose duty it is to carry out the safety program is from 50 to 75 men.

Make Monthly Inspection

"Each sub-committee monthly inspects the areas and departments assigned, and to discuss and report all unsafe conditions or practices they have unearthed. Their suggestions and recommendations form the subject matter of the general plant safety committee which likewise meets each month. The sub-committee's recommendations or suggestions are arranged in numerical order and are continued on future minutes of meetings until properly disposed of. The general plant committee minutes are in turn sent to the sub-committee members that they may know the disposition of each item. Many items that are brought up by the sub-committees are of such a nature that they can be immediately taken care of without the help of the general plant committee.

"The minutes of the sub-committee naturally reflect the work which is required to advance safety, but in order that some record of individual work accomplished may be secured, each sub-committee man distributes among the various foremen a blank form on which each foreman's monthly accomplishments can be reported.

"The most effective method of safety organization in plants of between 100 and 500 employes is practically the same as in larger plants. The general plant committee is naturally smaller, but as in the case of larger plants the local superintendent and his staff officers are the members. The assistant superintendent and the employment supervisor are chairman and secretary respectively.

Work More Specialized

"The standing sub-committees are three in number. Instead of lining their work up by departments it is more specialized. For example, three sub-committees function in the following manner. One, a sub-committee on plant inspection. Another, a sub-committee on safety equipment and the third a sub-committee on fire organization and equipment.

"One important matter of organization at the smaller points which we have been able to effect, is the appointment of several workmen to each of the sub-committees. These workmen serve for three or six months, which makes it possible in the course of a year or two to have in the force a substantial number of workmen who have become familiar with many of the plants safety problems and had intimate contact with that part of the supervisory force on whom falls the responsibility for safety."

Discussion of Mr. Winslow's paper was led by E. A. Timm, Standard Oil Co. of New Jersey.

Concerning progress on safety work in California, Mr. Kelly said:

"In 1923 the California state industrial accident commission issued in tentative

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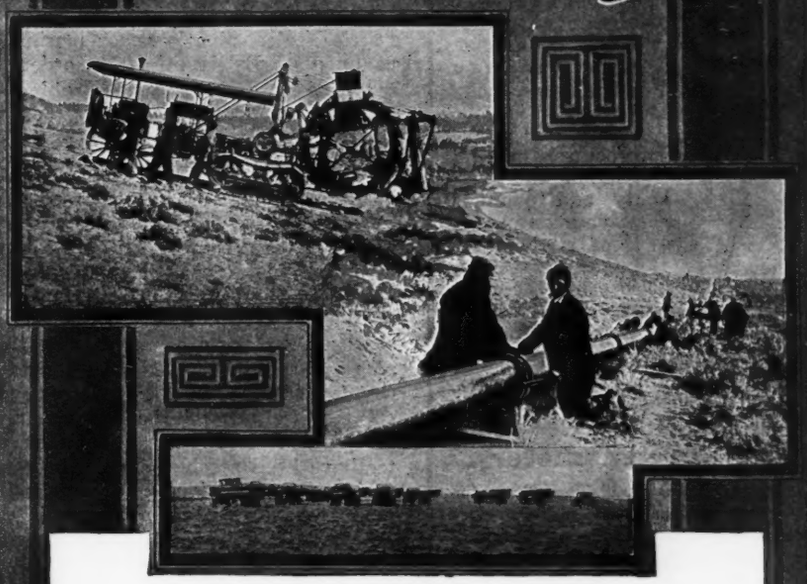

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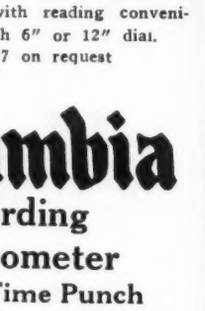

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form a set of petroleum safety orders. These were prepared as the result of an extensive series of meetings participated in by oil operators, safety engineers, and the safety inspectors of the commission. As adopted in their tentative form and later made a part of the regulations of the commission, these regulations stipulated certain modifications in the erection and maintenance of field equipment, the orders being confined almost entirely to oil field operations, little or no attention being given to refineries, sales, pipe lines, or marine departments. By issuing the orders in tentative form, they were subject to general criticism and suggestion, and their final adoption represents the result of very careful and co-operative study by everyone concerned.

"Under these regulations, every company must provide first-aid cabinets wherever eight or less men are employed in one locality. Both employers and attendant physicians and surgeons must make reports of every injured employe where the disability lasts through the day of the injury or requires medical services beyond the ordinary first-aid treatment. Reports of this character have been received by the industrial accident commission over a period of many years, and these are made in such detail that they furnish an excellent fund of information for the study of the causes of industrial injuries.

Construction Regulated

"Under the petroleum safety orders, specifications are given for the construction of derricks and for safeguards for both drilling and pumping equipment. The orders also give specifications for safeguards for loading racks, and require the use of gas masks and the presence of an assistant whenever a man is put inside a tank or container known to have previously held oil or gas. Provisions are also made for the prevention of fires at distributing plants, loading racks and warehouses.

"Under the orders, as finally adopted, the complete list of safeguards are required only on new construction, except in cases where wells are being redrilled, when certain essential safeguards must be incorporated in the derrick construction.

"For the purpose of enforcing these orders, the industrial accident commission maintains a small force of inspectors. It also publishes a monthly bulletin which has been of considerable service in disseminating safety ideas of educational value."

He concluded by telling of the excellent co-operation being given the Pacific coast petroleum safety men by the Bureau of Mines, the Chamber of Mines and Oil and the California Society of Safety Engineers. Mr. Kelly presented stereopticon views of the safety appliances used and methods applied in California oil fields.

Accidents in Oklahoma

H. C. Fowler, associate petroleum engineer, Bartlesville experiment station, Bureau of Mines, reviews 3728 compensable petroleum accidents in Oklahoma in 1923 as revealed by reports to the state industrial commission.

"Of this number 2686, or 72 per cent of the total, were found chargeable to drilling and production; 472, or 12.7 per cent, were pipe line accidents; and the remaining 570, or 15.3 per cent, occurred at refineries and gasoline extraction plants," Mr. Fowler said. "The accidents listed under drilling and production include those occurring in the drilling and handling of natural gas wells. The 472 pipe line accidents include those occurring to employes engaged in laying natural gas mains from sources of supply to points of distribution.

Wire Taped To Hose Grounds Nozzle

LOUISVILLE, KY., Oct. 3

TIDE WATER OIL CO., to prevent the accumulation of static electricity sufficient to ignite gasoline vapors when an automobile tank is being filled, has taped to its pump hose a flexible electric wire. One end of the wire is soldered or clamped to the nozzle and other is run to the pump or grounded. All pumps are thoroughly grounded.

The static which ordinarily would accumulate at the nozzle is thus dissipated before it acquired volume sufficient to cause a spark. This "wrinkle" was revealed to petroleum safety men here by Frank A. Epps, manager of the company's fire protection department.

"The relatively small number of pipe line and refinery accidents when compared with those in the department of drilling and production is to be expected, because a smaller number of men are engaged in pipe line and refinery work than in drilling and production.

"Of the 2686 compensable cases occurring in the development and operation of oil properties, 68 per cent happened to employes working on company payrolls, 24½ per cent to employes of drilling contractors, 3½ per cent to men working in casing crews, and 4 per cent to contract rig builders.

Day's Time Lost

"The record shows that 162,718 days' time was lost because of the 3728 accidents. The records of 191 of these cases state specifically that infection was directly responsible for the loss of time or prolonged the period of convalescence. Permanent partial disabilities totaling 288 gave the equivalent of 66,404 lost days or 40.8 per cent of the total lost time, although they represent

only 7.7 per cent of the total number of accidents.

Accidents in drilling and production totaled 2686 causing 124,104 days' lost time. Machinery at drilling and producing wells was responsible for 720, or 26.8 per cent, of these accidents. However, these 720 accidents caused the loss of 44,132 days, which is 35.6 per cent of the time lost in this department.

"Permanent partial disability cases, 121 in number, caused over one-half of the total days' lost time due to machinery at drilling and producing wells. Pipe tools, including tongs and wrenches, circle jacks and casing poles, caused more accidents than any other machinery equipment at the wells. Eighteen and eight-tenths per cent of the 720 accidents were caused by such tools.

"Gas engines, where accidents were due mainly to cranking and being caught in fly wheels, came next in order for number of cases, but in point of time lost, travelling blocks ranked second. This is a logical result when one considers that out of 47 traveling block accidents, 25 were permanent partial disabilities. An unguarded traveling block shows no mercy and a man whose hand is caught in a wicker has all the odds against him. Pipe tools, traveling blocks, gas engines and elevators present definite hazards that will bear the careful attention of the safety engineer, the field superintendent and the man on the job.

"Seventeen classes of accidents and their order according to days' lost time follow:

	Cause of Accident	Percentage of total time lost Producing	Refining
1	Machinery at drilling and producing wells	35.6	....
2	Struck by falling objects	11.1	10.9
3	Falls of persons	9.1	13.8
4	Struck by moving objects	7.2	9.0
5	Other machinery (to include all jack plant equipment)	7.0	6.9
6	Flying objects	5.9	8.3
7	Explosions	4.3	7.0
8	Hand Tools	3.9	10.4
9	Heavy lifting and straining	3.2	8.2
10	Auto trucks and tractors..	2.9	3.2
11	Miscellaneous	2.0	10.5
12	Burns	1.9	4.9
13	Dropping objects or materials	1.6	2.5
14	Stepping on objects	1.4	2.2
15	Running into or striking objects	1.0	2.5
16	Vehicles (other than motor driven)	0.9	0.6
17	Cause unknown	1.0	0.1
		100.0	

"Accidents at refineries center around 'falls of persons,' 'Struck by falling objects,' and 'hand tools,' as was the case under 'pipe lines.' In this department, however, 'falls of persons' leads the others both in number of cases and days' lost time. This indicates a need for better scaffolding and greater care on the part of men working above the ground. Twenty-seven permanent partial disabilities were chargeable to the refining of oil.

"According to the records, these 3728 cases cost in compensation $376,266. This figure is for compensation alone and includes no medical expense.

"Against this is the sum of $960,000 lost to employes in wages not received

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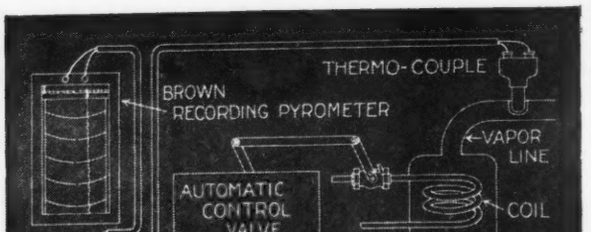

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PROCESS PATENTED. The Barnickel processes for treatment of cut oil and other petroleum emulsions by the use of chemical agents are protected by valid process patents issued by the United States and foreign countries.

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WM. S. BARNICKEL & CO. St. Louis, Mo.

on account of disabilities. This sum was computed on the basis of actual daily payroll against days' lost time. If the equivalent of 19 fatalities were added, the sum would be in excess of $1,600,000. This is equal to the value of 1,430,000 barrels of oil at $1.12 per barrel. This quantity of oil would fill a tank farm of 26 tanks, each having a capacity of 55,000 barrels."

Mr. Singleton in an address on safety work in the marketing division told of the safety courts of the various divisions of the Standard Oil Co. of Indiana. A considerable amount of his paper has been covered previously in articles in National Petroleum News.

Running Motor Starts Casinghead Fire

LOUISVILE, KY., Oct. 3.—Petroleum safety men were told of the gasoline fire in Pittsburgh several months ago in which 10 persons lost their lives. A 1000-gallon three-compartment tank truck belonging to a natural gas company brought a load of natural gasoline from the company plant to its garage for use in the company's trucks and other motor vehicles.

The gasoline had a gravity of 85.7 degrees and the temperature of the day was 92 degrees. According to testimony at a coroner's inquest, the truck was driven part way into the garage and the motor left running. The cap on one compartment was removed by an employe of the garage and immediately the driver was seen to run from the garage and wring his cap. Two children who had been playing nearby testified they saw a vapor wave or cloud float up from the tank. The explosion followed.

Vents on the tank consisted of ⅝-inch tubes with 7/16-inch balls. When the tubes were held in a vertical position, the balls could be blown firmly against the upper seat and a perfect seal formed, it was testified.

Natural Gasoline Book Out

TULSA, Oct. 4.—G. G. Oberfell, Tulsa representative of the Hope Engineering & Supply Co., received a first shipment of his new book on natural gasoline just prior to the opening of the exposition. The book was written by Mr. Oberfell in collaboration with R. C. Alden, who is also well known in the natural gasoline industry.

"Natural Gasoline" is a complete handbook on the industry. It gives the theory underlying various gasoline extraction processes, theory and practice of blending, description of methods of treating, power costs, installation and operation costs, forms of gas contracts and a description of an economical and efficient type of absorber filler. The book contains 600 pages including 125 pages of tabulated data and 160 graphs and illustrations.

HERE AND THERE

O. W. Brown, assistant manager of the National Refining Co., Minnesota division, at Mankato, recently joined the ranks of "happy though married" class, according to Carl Lovelace, manager of the Mankato branch. Mr. Lovelace says "We wish the happy pair all the ups and downs necessary to make life interesting."

* * *

W. L. Lund, formerly with the St. Paul country division of the Cities Service Oil Co., has been transferred to district superintendent at Ft. Dodge, Ia., according to F. J. Hau, of the accounting department of the company at Ft. Dodge.

* * *

Cigars are expected from Harry Rafferty at the Shelbyville, Ind., station of the Standard Oil Co. of Indiana, due to the arrival of a big baby boy at the home of Mr. and Mrs. Rafferty, according to C. B. Winegardner, agent.

* * *

James **Anderson, vice-president of** the Humble Oil & Refining Co., with headquarters at Houston, has returned home after a trip to Shreveport, north Texas and Oklahoma points that include a visit to Tulsa.

* * *

W. R. Trelford, Houston, of the Humble Oil & Refining Co., executive offices, is spending his vacation period on a trip that includes Havana and New Orleans. He is expected back in about a week.

* * *

Col. E. V. Selden, of the Crystal Oil Works, Oil City, Pa., Mrs. Selden and their five children have returned from a tour of Europe. The trip served as a graduation gift to two of the children.

* * *

Harry **C. Weiss, Houston, vice presi**dent of the Humble Oil & Refining Co., in executive charge of the refining department, has been spending his vacation period around Point Sulphur and other eastern points.

* * *

Mr. and Mrs. F. E. Miller, of Texas City, Tex., are the parents of a seven pound boy, born Sept. 23. Mr. Miller is manager of the Marland Refining Co.'s export terminals in Texas City.

* * *

C. T. Furrer has been appointed manager of the Walla Walla, Wash., branch of the Standard Oil Co. of California, effective Sept. 15.

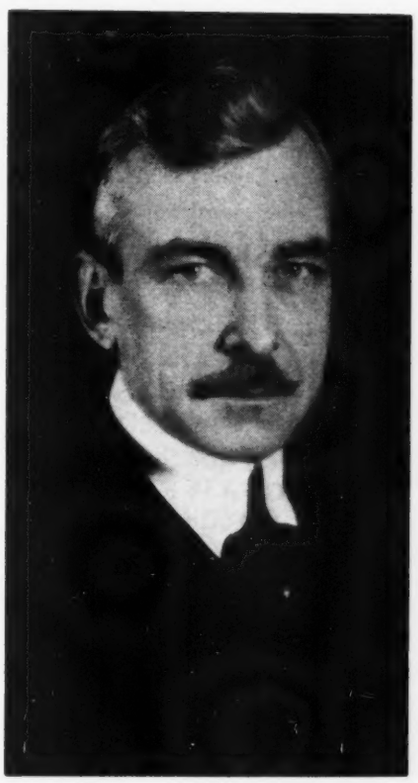
* * *

George W. Walker has just been made district manager at the Yakima, Wash., branch of the Standard Oil Co. of California.

Bruce Holmes, manager of the Vancouver, Wash., branch of the Standard Oil Co. of California, was recently transferred to the Astoria, Ore., branch. H. O. Bone succeeds Mr. Holmes at Vancouver, the former being transferred there from the Gresham, Ore., branch.

* * *

N. H. Stillman, who has been district manager at Centralia, Wash., for the Union Oil Co., has been transferred to Hoquiam, Wash., to become manager of the Hoquiam-Aberdeen district.



E. W. Edwards

* * *

D. J. Moran, Houston, vice president of The Texas Co., in charge of the producing department is back at his desk after a rest period spent at Marlin, Texas.

* * *

R. L. Blaffer, Houston, vice president of the Humble Oil & Refining Co., is convalescing after an attack of influenza that confined him to his home for a few days.

* * *

William B. Gallagher, New York, for many years with The Texas Co., and who was recently connected with the Union Petroleum Co., has joined the force of the Reliant Oil Corp.

Paragon President Is Industrial Leader

CINCINNATI, Oct. 3.—E. W. Edwards, recently elected president of the Paragon Refining Co., Toledo, O., is known as a builder of large and successful corporations, some of which he has raised from a weak condition. Mr. Edwards has been known in the oil industry for many years largely as a manufacturer of equipment.

He is today the head of the Edwards Manufacturing Co., Cincinanti, which manufactures steel buildings; of the Cannonsburg Steel and Iron Co., the Kinnebar Manufacturing Co., the Pringle Turpentine Co., the Cincinnati Industrial Investment Co., C. Crane & Co., the Pond Fork and Bald Knob Railroad Co. and several other important companies. He is president of the Cincinnati Rapid Transit Commission and former president of the Commercial Club of Cincinnati and of the Business Men's Club.

Mr. Edwards' rise in the industrial world is like in many respects to the story of so many industrial leaders in the United States. He had few advantages in his youth, his family was of limited means, his father died when E. W. Edwards was 14 years old and only through his own and his older brothers' efforts was he able to finish high school. At 17 he entered the employ of Scott & Co., manufacturers of corrugated iron, at $3 a week. A long time afterward he bought out Scott & Co.

Hard work, perserverance and sound thinking is the formula upon which Mr. Edwards has based his career. He has not forgotten how to play, though. Each annual effort of the Cincinnati Reds to emerge at the end of the season at the top of the National League finds Mr. Edwards cheering the effort lustily. He is something of a fisherman and plays better than an average game of golf.

In the factory district of Cincinnati stands the office building of the Edwards Manufacturing Co. and one's first impression is that a large bank has selected an odd location. In this building is what has often been said to be the most beautiful business office in the country. Mr. Edwards has furnished the office with the exquisite in rugs, tapestries, paintings and furniture. His private art collection is said to be the finest in Cincinnati.

CASPER, Oct. 3.—J. W. Steels, petroleum engineer of the Bureau of Mines, has been made deputy supervisor in charge of the Casper office, succeeding W. W. Scott, who resigned. Mr. Steele has been stationed in Casper for four years continuously except for part of a year when he was in the employ of the Producers & Refiners Corp.

VERMILLION, S. D., Oct. 3.—During August 7,665,942 gallons of gasoline and 1,369,875 gallons of kerosene and in July 5,955,250 gallons of gasoline and 1,220,096 gallons of kerosene were inspected.

IN THE MAILBAG

When Gasoline Is A Sideline

"IN OUR city a manufacturing company started in to sell gasoline at five or six cents under the oil company's retail price, putting in their own storage. First they limited sales to their employer. But employes buy coupon books and give them to their friends, and considerable dissatisfaction results with the oil companies' price."

This from an eastern marketing company which goes on to ask how they can combat this situation.

Many communities are up against this same form of competition. In fact large concerns with hundreds of employes often purchase coal, groceries and what not, selling them to their employes at less than they can be bought through ordinary retail channels. They figure the saving their employes can make through such purchases amounts to the same thing as though they were paying them that much more in wages.

As long as anyone with a railroad siding can buy gasoline in tank car lots at the refinery and put in their own storage this condition is going to continue; for they can handle it at any time at less than the oil company that has to maintain trucks and employes to carry its gasoline from its railroad storage to its stations and serve its customers with tank wagon deliveries. It seems to us the best method of combating this form of competition is for the oil company to play up more than ever its service, the convenience of its stations particularly and the high and uniform quality of its gasoline, the safeguards it employs to see that its patrons always obtain this high quality gasoline and so on.

HOW FAST CAN THE LITTLE FELLOW DRINK IT UP?

Wants Advice On Building Stations

VERY frequently letters come to N. P. N. asking for advice of its editorial men familiar with service station operations as to the advisability of establishing new service station companies in certain localities. The latest letter of this character asks as to the chances for business success of a company starting to build stations in a far western state.

Obviously queries of this kind are impossible to answer definitely. There are certain general conclusions or observations that this publication is glad to make to such people contemplating entering the oil marketing business, based on its observations of the tremendous development of this phase of the oil business.

The first is that, as a general rule, the person or company contemplating entering the business must consider that there are now sufficient number of stations in practically all localities to take care of the needs of motorists there. Another is that adding to the number of stations in a community does not increase gasoline consumption there and make more business. There are a certain number of automobiles registered there and they operate as much as their owners desire. They will not be run more if additional stations are built to sell gasoline. Of course more cars are put in use every year, but these new cars can still be taken care of at existing stations. Another is that the margin the jobbing branch of the industry has enjoyed the past two or three years cannot be taken for granted to exist in the future.

The new stations that are put up must figure on operating on business taken from existing stations and splitting up the business. They can do that to the extent that they offer something to motorists over what the present stations offer them.

This might be convenience of location, superior service to motorists over what is now offered, a better quality of motor fuel, a large personal following of the new operators, or possibly other factors. One obvious fallacy would be to draw business by cutting the price to the motorist. All in all the best advice probably is to study long and carefully before initiating such a venture.

YOUNGSTOWN, O., Oct. 2.—Tuscon Steel Co. has published a booklet describing the new foundry of the Studebaker Corp. at South Bend, Ind., in which it handled the engineering work and installed 200,000 square feet of windows and operators. The foundry, which is considered one of the largest and best equipped in the world, and covering 11⅓ acres of ground space, is one of nearly two dozen large industrial projects awarded the Tuscon this year, the company says.

THE EDITORS' VIEWPOINT

Worshipping False Idols

THE oil industry has for years bowed low to the thought that great size means great efficiency. Other businesses have also. Today it is becoming apparent that possibly this worship has been a false idol.

One of those Saturday afternoons, when the executive officer sits around the place all by himself and wonders just how rotten his outfit is, why all the mistakes and why not more profit and less cost, the writer stopped by the headquarters of the president of a large oil company. Of that gentleman's inward reflections he got the following:

"Nobody can tell me these small refiners, when they are properly managed and are up to the times, don't run cheaper than us big fellows," observed this president. "I know for I have looked into some of them. It's one job running a few men yourself, that you can keep in personal touch with all the time, running a plant that you can walk over and check up on every pick and wheelbarrow and wrench and still—and it's quite another thing running some high priced executives who in turn run more executives, who in turn run other people and so on down to the fellow who is supposed to look after the wrench and the pick. He's so far off I don't get a chance at him at all. I know the small refiner has us big fellows beat,—I mean the up-and-going small refiner—for real downright efficiency, which is refining oil at a less cost per barrel than we are."

Said a big oil company treasurer as he started to show with pride, which pride rather slipped away from him, the general offices with the fancy furniture and young army of employes:

"I swear I don't know what all those people in there are doing, except eating us out of house and home with their cost," said this treasurer and he has been and is today running a good money making institution. "I used to run my business at a whole lot less cost per barrel than I help to run this. I look at all that gang in there beating typewriters and adding machines and calculators and the Lord knows what all, and it gives me the creeps. I just feel helpless beside it."

He hastily closed the door to shut from his ears the clatter that this specter of operating cost was making with all its complicated and costly machinery.

Now comes L. D. H. Weld, manager of commercial research of Swift & Co., Chicago packers, and in the September issue of SYSTEM knocks out another popular idol by saying that large wholesale businesses like retail stores operate at higher costs than small ones. He finds, and gives the figures, that a small wholesale business cuts its cost a trifle by growing into a medium sized business. But when it grows into a large business its costs go up above anything before. He finds it's a matter of greater sales expense to get and hold the larger volume, the accumulation of a lot of things under the head of "service" and just naturally it costs more.

When you get right down to it the biggest thing in business today still is the human being. A business will grow economically as big as the capacity of the man running it and then its costs begin to go up. Maybe he makes more money but his costs are not the same.

Many big oil companies today can tell you that bigness in and of itself is not an asset but a liability, when it comes to operating.

The small producer may have some messy looking books in an old desk, the small refiner may have a shack of an office and the small jobber may keep half his business in his head, but the thought is beginning to seep up that maybe they are running their businesses more efficiently than a lot of the grander looking institutions that dot the countryside.

Moral—don't be envious of a big outfit that glistens and glitters in mahogany and nickelplated contraptions. You may have it beat forty ways on operating costs—W. C. P.

Keep Away From Loose Talk

THE HAWKEYE OIL CO. hands out some exceedingly good advice to its service station and tank station agents in the current issue of its house organ, the Hawkeye Gusher. It warns all these members of its force to avoid anything that might even be misconstrued by a competitor to indicate price cutting on its part; and also to avoid giving belief, or even lending ear, to reports of price cutting on the part of some other oil company. Plain talk in this same matter by other companies would go a considerable way towards heading off some of the price-cutting talk that drifts around every community and eventually leads to demoralization.

"During these times of demoralized markets it has been discovered that a good many service station and tank station agents of the different oil companies, including our own, have been to blame for price-cutting", it states. "Some of the agents have manufactured evidence in order to get the market cut, some have even encouraged garage men to cut the price at curb pumps.

"The time has come when all oil companies will have to curb the unfaithful activities of such agents and also curb the false maneuvers of such garage pumps. Prices are now so low that there is no profit left and monthly statements of different oil companies are in the red at this season of the year which should be the season for oil companies to lay up a profit to carry through the long bad winter months. Instead, however, the best months of the season have shown in the red and many oil companies will not be able to come through this next winter without going into the hands of the receiver.

"We warn our own agents, both at service and tank stations, as well as salesmen and auditors, to not reduce prices or post any reduced prices without receiving absolute authority from this office to do so. Any agent that is found to misrepresent conditions as they actually exist, or who reduced prices in order to demoralize the general market will be discharged from the services of this company at once."—V. B. G.

RAPIDAYTON Cut No. 100

Air or Hand Operation or Combination of Both.

5 and 10 Gallon Containers.

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Dependable-Attractive STATION SERVICE

Simplicity and correctness of mechanical design are necessary factors in building equipment of any kind. In building the RAPIDAYTON Cut No. 100 Visible Gasoline Dispenser we have recognized these fundamentals---we have built a Visible Gasoline Dispenser to deliver dependable, uninterrupted service for the operator, day in and day out.

Quick, clean filling service and attractive equipment, such as the RAPIDAYTON Cut No. 100 are distinct sales assets--necessary to attract new and regular customers and to keep them coming.

This standard equipment is furnished with every RAPIDAYTON Cut No. 100 Visible Dispenser:

14"x26" galvanized pressure tank; air operating valve and pressure regulating needle valve; horizontal swing check valves between storage and pressure tank and between pump and pressure tank; choice of one of three lighting arrangements. When desired, a shut off valve at the pump, with a self-draining nozzle on the end of the hose is furnished. Ten feet of one-inch metal-lined hose, with one-inch quick-closing filling nozzle on end of hose comes with each pump.

The Dayton Pump & Manufacturing Company

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Pumps, Tanks, Lubricating Oil Outfits

Community Leases Offer Advantages To Operating Companies

By John L. Church
Union Oil Co. of California

IN EXPLORATORY work in the oil fields it frequently happens that the operating companies are faced with the problem of securing leases to potential oil lands that are held in small parcels by various owners. To negotiate separate leases with each owner is unsatisfactory both from a development standpoint and that of the individual owner. The interests of the land owners conflict, and separate leases mean offset wells, which in turn increase the proportionate cost of oil recovery.

To harmonize these conflicting interests, and at the same time to make for greater oil recovery at less expense, the operating companies are making strenuous efforts wherever there is encountered potential oil land that is split up in ownership to negotiate a community lease. This means that all the interested owners pool their interests and make one lease covering their land as a whole. In its application the community lease places each owner on an equable basis through a unit system by which these owners receive in royalties amounts in proportion to the interest in the community lease. That is to say, if the amount of land included in a community lease is 100 acres and one of the lessors in the lease owns 10 acres, he will be entitled to one-tenth of the royalty from all the land under lease, irrespective of whether or not production is found on his land.

What are the advantages to the small land owner in a community lease? In answering this it should be borne in mind that the larger operating companies do not consider it advisable to take a lease on property that is less than 20 acres in extent, due to the offset conditions which may arise, which in turn mean the close spacing of wells and resulting intensive development. There is also the ever-present danger when wells are too closely located of water entering the oil sands in neighboring wells where an unsatisfactory water shut-off has been secured in a near-by well. Such a contingency spells ruin to the affected wells.

It will be readily seen, therefore, that the leasing of a small parcel of land is a hazardous undertaking which many companies hesitate at. But by combining their interests, the small land owners can present a block of land that will, by virtue of size, be attractive to the operator.

The theory of the community lease is that the operating company can by disregarding property lines drill the structure along geological lines in the manner best suited to the recovery of the greatest quantity of oil and gas at the least cost without the necessity of drilling offset wells to comply with the requirements of individual leases. It therefore follows that since the closing contour lines (i. e., all that is considered productive) cannot be determined at the time the lease is negotiated, all lessors under the lease must of necessity be on an equable basis, and that they receive royalty in proportion to their holdings.

AMONG the outstanding developments in the business of producing oil we have consistently maintained that the growth of the community lease occupies high place. Previous articles in this journal have told of practical illustrations of this plan; among these articles was one describing the plan adopted by the Union Oil Co. of California in handling the Wellington field in northern Colorado.

In the Union Oil Co.'s "Bulletin," official publication of the company, John L. Church, assistant manager of lands, discussed the principles of the community lease. Mr. Church's article herewith republished is a clear explanation of the plan that many forward-looking oil producers believe will within a few years come into general use, with such modifications as local conditions require.—Editor.

One illustration will point out one of the valuable features of the community lease. Promiscuous drilling in Santa Fe Springs and Signal Hill, brought about by the necessity of offset wells, resulted in a quick dissipation of the gas pressure. Wells that had been producing 2000 barrels or more daily suddenly dropped to a few barrels or in some instances ceased to flow and had to be put on the pump. The oil was in the structure but there was not sufficient gas pressure to lift it to the surface. Had the gas been conserved, as is possible where offsetting and promiscuous drilling is not obligatory, the ultimate recovery from these fields would undoubtedly have been greater and the cost less.

In entering a new country to prospect for oil, the best location for a well cannot always be determined, due to the fact that geological conditions may be covered, and it remains for the drill to uncover these. The first well drilled may not be a producer, but may furnish indications that there is a structure nearby which would warrant the drilling of a second well.

In negotiating with land owners for a community lease it is not uncommon, in fact it seems a twist of human nature, for each owner to think the oil sands underlie his land and that his neighbor's property is not so good. To this belief, of course, the operator cannot subscribe; if he knew just where the oil was to be found there would be no necessity for leasing any land other than that which was known to be productive.

Share on Acreage Basis

While, of course, there are certain subsurface conditions which are indicative of an oil structure, the only sure test is the drill. When these conditions are fully realized the dissipation of conflicting opinions as to the merits or demerits of the various holdings as oil land usually follows, and a willingness to join a community lease is manifested. Each owner knows that irrespective of where the oil is first found, whether it be on his own land or on his neighbor's, he will share in the returns according to his share in the lease.

Completing a community lease is a task that cannot be done in a day or week. The Union Oil Co. of California recently took a community lease on some 3400 acres in which the owners were scattered from one end of the state of California to the other. As the same lease is signed by all, and nearly every one has some special ideas as to the clauses of the lease, it takes a lot of explaining to get all their signatures to the lease as originally drawn up; changes, naturally, cannot be made after any of the owners have signed. Community leases are made with the best interest of both the lessors and operators in view and in all fairness to both.

To the operator, the ideal is to hold in fee a large parcel of oil lands, but such ideal is rarely attained. Next in order is a lease on large holdings either individual or community. The other alternative which does not find favor with the larger operating companies is the development of a district that is leased from many different owners whose interests conflict.

If it were possible that a whole field could be included under one lease, and development carried on by a responsible and skilled company, more oil would eventually be recovered than if the wells were drilled on individual leases, for the reason that the operating company could so space and place its wells where they would produce the most oil. The operator would not be faced with the necessity of sinking offset wells to prevent drainage by an adjoining well.

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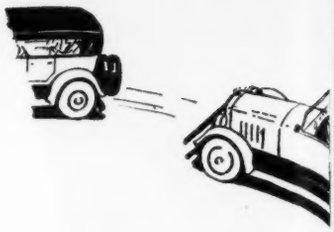

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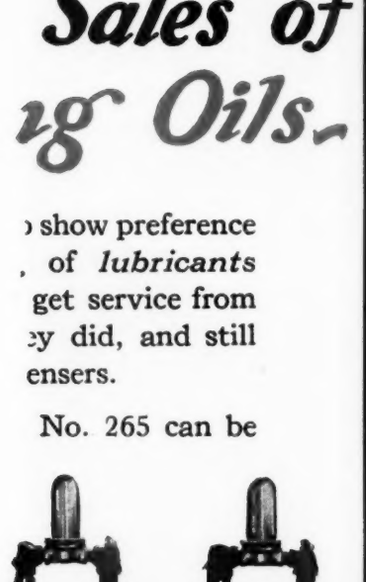

ump Company
Wayne, Indiana

CITIES

Completes Digest Of State Laws Taxing Motor Fuels

WASHINGTON, Sept. 29

A DIGEST of state gasoline tax laws in effect on July 1, 1924, has been prepared by the Washington office of the National Petroleum Association under the direction of Fayette B. Dow.

The digest, a 37-page mimeographed pamphlet, contains detailed information as to what is classed as motor fuel and taxed in each state, date when tax became effective, amount of tax, by whom and how paid, disposition of the proceeds, penalties for fraudulent reports or failure to make report, and other provisions.

Of the 37 states in which gasoline taxes are in effect, 22 states dispose of the entire proceeds for maintenance and construction of state and county roads, and a few include bridges and culverts, while two states transfer all money collected into the general state fund to defray general state expenses. States in the former group include: Arkansas, California, Colorado, Connecticut, Florida, Idaho, Kentucky, Louisiana, Massachusetts, Maine, Mississippi, Nevada, New Hampshire, North Caroline, Oklahoma, Oregon, South Dakota, Tennessee, Vermont, Virginia, West Virginia and Wyoming. In Arkansas, however, $150,000 of the amount collected, or as much of the $150,000 as may be necessary, is appropriated annually for the purpose of making refunds. Massachusetts allows one-half of the tax to be appropriated by the general court for expenditure by the Department of Public Works on such highways as it may select. Delaware and North Dakota are the two states that use all funds from gasoline taxes for defraying government expenses.

Maryland expends her proceeds in accordance with appropriations made by the general assembly. The United States treasury appropriates all gasoline taxes collected in the District of Columbia, but credits one-half to the district, and one-half to the U. S. Treasury and the district. Those states which transfer part of the proceeds from gasoline taxes for general state funds include: Alabama and Arizona, each one-half; Georgia, one-third; Montana, two-fifths; Pennsylvania, one-half of the regular 1 cent tax and all of the emergency tax in effect in that state; South Dakota, one-third. New Mexico transfers proceeds to the state road fund with the exception of $15,000 which goes to the state fish hatchery. Texas uses one-fourth of the proceeds for the public school fund. Utah pays the interest and sinking fund charges on state road bonds with money collected from gasoline taxes, and proceeds in excess of this amount go to the state highway maintenance fund. Washington transfers all taxes to the motor vehicle fund. During the fiscal year, beginning Oct. 1, 1923, Indiana distributed $500,000 among its counties, and will distribute $1,000,000 during the fiscal year beginning Oct. 1, 1924 and each year thereafter for the construction and maintenance of county highways.

A brief review of the gasoline tax law in each state, as reported in this digest, appears below.

Alabama: tax of 2 cents per gallon on gasoline, which includes naptha, and other liquid motor fuels commonly used in internal combustion engines. It is paid by the distributors and retail dealers on gasoline sold within the state. Payment must be made to state tax commission on the 20th day of each month. Tax effective March 1, 1923.

Arizona: tax of 3 cents per gallon on gasoline and other distillates of crude sold for use in motor driven vehicles. It must be paid before 15th day of the month by the dealer on gasoline sold within the state. Tax became effective June 9, 1923.

Arkansas: tax of 4 cents per gallon on gasoline sold within the state, and a tax of 10 cents per gallon on motor oil. It is paid by the manufacturers and wholesale dealers in gasoline and motor oil, and is payable before the 20th of each month. The money collected goes to the state highway fund. Tax was effective Oct. 10, 1923.

California: tax of 2 cents per gallon on all motor vehicle fuel, including gasoline, distillate, benzine, naptha, liberty fuel and other volatile and inflammable liquids produced for the purpose of operating motor vehicles. It applies on gasoline sold within the state and is paid by the distribution. Tax is to be paid within 20 days after the end of each quarter. Tax became effective on Sept. 30, 1923.

Colorado: tax of 2 cents per gallon on gasoline or any petroleum products used in propelling motor vehicles. It is paid by the owners of the oil and is collected by oil inspector. Tax was effective April 30, 1923.

Connecticut: tax of 1 cent per gallon on fuels, defined as gasoline, benzol or other products to be used for propelling motor vehicles. It is paid by the distributor and must be paid not later than 15 days after the close of each month. Tax became effective Sept. 1. 1921.

Delaware: tax of 2 cents per gallon on motor vehicle fuel which includes gasoline and such other volatile and inflammable liquids produced to propel motor vehicles. It is paid by the dealer within one month after the close of each month. Tax became effective Jan. 1, 1924.

District of Clumbia: tax of 2 cents per gallon on motor vehicle fuels defined as gasoline and other volatile and inflammable liquids produced for operating internal combustion engines. It is paid by the importer, who is defined as any person that brings into the district, or who produces motor-vehicle fuel. A report is made to the assessor of the District of Columbia on or before the last day of each month for the preceding month.

Florida: tax of 3 cents per gallon on gasoline or other like products not including crude, fuel oil or kerosene. It is paid by the dealer and is payable before the 15th of each month. Tax effective July 1, 1923.

Georgia: tax of 3 cents per gallon on motor fuels used in internal combustion engines. It is paid at the end of each quarter by the distributor. Tax went into effect on Oct. 1, 1923.

Idaho: tax of 2 cents per gallon on motor fuels used for power purposes, except: kerosene, crude, residuum, gas or smudge oil. It is paid by the dealer before the 15th day of each month. Tax became effective April 1, 1923.

Indiana: tax of 2 cents per gallon on gasoline, which is paid before the 15th of each month by the dealer. It became effective on June 1, 1923.

Kentucky: tax of 3 cents per gallon on gasoline. It is paid by the retail dealer and report and payment must be made on the first day of each month on gasoline sold during preceding month. Tax went into effect on June 18, 1924.

Louisiana: tax of 2 cents per gallon on motor fuel which is defined to include all volatile gas generating liquids having a flash point below 110 degrees F. and commonly used to propel motors or motor vehicles. It is paid by the dealer within 20 days after the close of each month. Tax became effective Aug. 1, 1924.

Maine: tax of 1 cent per gallon on internal combustion engine fuels. It is paid by the distributor and payment must be made before the first day of the month succeeding the filing of report. Tax effective July 7, 1923.

Maryland: tax of 2 cents per gallon on motor vehicle fuels, paid by the dealer within one month after the close of each month. Tax effective Jan. 1. 1924.

Massachusetts: tax of 2 cents per gallon on gasoline, benzol and other products used in propelling motor vehicles. It must be paid by the distributor

within 15 days after the close of each month. Tax went into effect on May 24, 1923. This act is said to have been suspended under a referendum petition and a vote of the people will be taken on it on Nov. 4, this year.

Mississippi: tax of 3 cents per gallon on gasoline. It is paid by retail dealers and distributors within 20 days after the close of each month. Tax effective in May, 1924.

Montana: tax of 2 cents per gallon on gasoline and distillate. It is paid by distributors and dealers. Payment must be made within 30 days after the close of each quarter. Tax became effective March 31, 1923.

Nevada: tax of 2 cents per gallon on motor vehicle fuels, including gasoline, distillate, benzine, naptha and other volatile and inflammable liquids used for propelling motor vehicles, except kerosene. It is paid by the dealer within 15 days after the close of each month. Tax effective March 20, 1923.

New Hampshire: tax of 2 cents per gallon on fuels defined as gasoline, benzol and other products used in internal combustion engines. The tax is paid by the distributor within 15 days after the close of each month. Tax went into effect July 1, 1923.

New Mexico: tax of 1 cent per gallon on gasoline. It is paid by distributors and retail dealers within 10 days after the close of the month. Tax became effective March 12, 1921.

North Carolina: tax of 3 cents per gallon on motor vehicle fuels, defined as gasoline, benzine, naptha, liberty fuel and other volatile and inflammable produced for propelling motor vehicdes, except kerosene. Payments must be made by the dealer within 20 days after the close of each month. Tax effective March 5, 1923.

North Dakota: tax of 1 cent per gallon on gasoline stored or offered for sale within the state. It is collected from oil companies who are engaged in storing, shipping, distributing or selling within the state. The state chemist inspects the gasoline and determines the number of gallons subject to taxation. Payment must be made within 30 days after the close of the preceding month. Tax effective March 6, 1923.

Oklahoma: tax of 2½ cents per gallon on gasoline and other volatile and inflammable petroleum products. It is paid by consignee, meaning the person or corporation immediately receiving gasoline subject to inspection. Oil inspectors report to the state auditor the amount inspected and consignee must make report and pay tax within 15 days after the close of each month. Tax effective on March 7, 1924.

Oregon: tax of 3 cents per gallon on motor vehicle fuels. It is paid by dealers and sub-dealers, the latter being defined as any person or corporation other than a dealer and every branch of a dealer handling motor vehicle fuel for sale and distribution within and without the state. Payment must be made within 15 days after the close of each month. Tax effective May 24, 1923.

Pennsylvania: tax of 1 cent per gallon regular tax; also an additional emergency tax of 1 cent per gallon on liquid fuels sold during the two-year period beginning July 1, 1923. It is collected from dealers and payment must be made within 30 days after the close of each quarter. Tax became effective July 1, 1923 .

South Carolina: tax of 3 cents per gallon on gasoline is paid by oil companies who make the first sale or first distribution, transfer, etc., of the product within the state for the purpose of sale. Payment of tax must be made within 20 days after the close of each month. Tax effective on March 23, 1923.

South Dakota: tax of 2 cents per gallon on motor vehicle fuels. It is collected from the dealer, who must make payment within 15 days after the close of each month. Tax became effective March 12, 1923.

Tennessee: tax of 2 cents per gallon on gasoline and distillate. It is paid by distributors and dealers within 30 days after the close of each quarter. Tax was effective April 1, 1923.

Texas: tax of 1 cent per gallon on gasoline, which is paid by all persons, corporations, etc., selling gasoline at wholesale. Payment is made 25 days after the close of each month. Tax was effective June 14, 1923.

Utah: tax of 2½ cents per gallon on motor vehicle fuels and is collected from retail dealers and distributors. Payment is made 15 days after the close of each month. Tax became effective March 8, 1923.

Vermont: tax of 1 cent per gallon on motor fuel is paid by distributor within one month after the close of each month. Tax became effective on April 1, 1923.

Virginia: tax of 3 cents per gallon on motor vehicle fuels, paid by dealer within 20 days after the close of each month. Tax effective on July 1, 1923.

Washington: tax of 2 cents per gallon on liquid fuels used in the operation of internal combustion engines, except kerosene. It is collected from the distributor, who must pay the tax within 15 days after the close of each month. Tax effective on Jan. 1, 1924.

West Virginia: tax of 2 cents per gallon on gasoline, to be paid by the person or corporation selling gasoline at wholesale. Payment must be made within one month after the close of each month. Tax effective July 26, 1923.

Wyoming: tax of 1 cent per gallon on gasoline, paid by the wholesaler within 15 days after the close of each month. Tax effective on April 1, 1923.

Richfield Oil Starts Hynes Refinery

LOS ANGELES, Sept. 29.—The Richfield Oil Co. has just placed in operation at Hynes, a few miles north of the Long Beach field, its new crude oil refinery which was erected during the early months of this year at a cost of approximately $2,000,000. This plant has a maximum capacity of 15,000 barrels per day.

One particularly striking evidence of foresight in designing and building this plant is the installation of turbine-operated electric generators, which furnish ample power and light for a complete electric system, independent of any power shortage. This system is equipped with duplicate units to insure against possible shut-down due to failure of any portion of the installation.

An important feature of this new refinery is its fire protection system, which, according to the Board of Fire Underwriters, is the most complete of any refinery in the country. The nucleus of this system is a complete Foamite installation, which not only protects the tankage on the property but is also carried to all operating units which present the slightest fire hazard. In addition to the Foamite system, a complete high-pressure water system supplied by an elevated water tower in conjunction with a special underwriters' type unit together with high-pressure steam lines furnishes a three-fold course of protection against any possible fire. All of the stills, fractionating towers and tanks are protected by adequate fire walls with drains leading to an emergency sump at a safe distance from the plant. The safety vents of the stills and evaporators, ordinarily the source of most refinery fires, are protected by especially designed vapor-proof release valves and are piped-off to the emergency sump.

WASHINGTON, Oct. 3.—A preliminary abstract of tonnage statistics of freight carried by the railroads of the country during 1923, published by the Interstate Commerce Commission, shows origin of 36,640,892 tons of refined petroleum and transportation of 76,204,640 tons; origin of 8,402,553, tons of crude petroleum and transportation of 14,578,989 tons; and origin of 2,102,128 tons of asphaltum and transportation of 6,155,442 tons.

HOUSTON, Oct. 3. — Underwood Nazro, second vice president of the Gulf Production Co., left last week for the east to put his son in school, after which he is spending a short time in New York City and Pittsburgh.

HOUSTON, Oct. 3.—R. L. Blaffer, vice president of the Humble Oil & Refining Co., is convalescing after an attack of influenza that confined him to his home for a few days.

Lubricating Oil Tests; How To Make Them; What They Mean

By H. L. Kauffman
Petroleum Chemist

Article 3

Why Is Carbon? How To Find How Much Carbon and Oil Will Deposit In The Engine

Importance Of Carbon Test

IN THIS, the third and last of a series of articles on lubricating oil tests, Mr. Kauffman shows the importance of the carbon residue test as an indication of the amount of carbon that an oil will deposit in the engine of an automobile in service. In plain words, the author tells the elementary chemistry of oil, showing that it is not so much the amount of carbon that the oil contains as the amount that it deposits during distillation that is important.

The tables contained in the article show the widely differing amounts of carbon deposited by lubricating oils from the same crude, due to different methods of refining and treating. Mr. Kauffman also gives other reasons why the carbon deposits from some oils are greater than from others and the article in general suggests selling points for the jobber to use, showing his customers exactly the amount of carbon deposit that is to be expected from his oil.

Such a selling campaign, based on accurate carbon residue tests, should be of considerable help to the jobber by enabling him to meet on a sound, scientific basis, the competition of various sellers of so-called carbon removers and carbon preventers.

Beside the standard Conradson carbon residue testing method, Mr. Kauffman describes two simpler and easier ways of making the test by means of which approximately accurate results should be obtained.

OF THE laboratory tests that are made in the examination of an oil, particularly lubricating oils, there is probably no test—with the exception of the viscosity test—that is more important than the determination of the carbon residue of the oil under examination.

Briefly, it may be said that the results of the laboratory carbon residue test tell us the extent to which an oil will distill without decomposition, but more especially it gives us an idea of the relative amount of carbon deposited as the result of such distillation.

In the preceding articles there has been discussed the tests usually made in the laboratory in examining a lubricating oil, but so far no mention has been made of the carbon residue test which is one of the most important tests made in determining the quality of an oil.

Before entering into a discussion of this test let us briefly mention such elementary hydrocarbon chemistry as will make clear the reason for the formation of carbon deposits.

Some Simple Chemistry

Let us first understand that a chemical element—of which there are only about 80 known—is a substance that can not be separated by any ordinary means into simpler substances. A divisible particle of an element, however, is called a molecule; an indivisible particle is called an atom. Hydrogen and oxygen are the elements that form water.

When two or more elements are combined in definite proportions by weight, and no longer have the characteristics of the original elements, then the substance is called a chemical compound. The oxygen and hydrogen of which water is composed are both gases, but when they are combined chemically to form water they take on entirely different characteristics, since water is in no manner similar in character to either hydrogen or oxygen in their elementary state. Water is, therefore, an example of a chemical compound.

A study of petroleum oils involves a study of organic chemistry, which treats of the compounds formed through animal or vegetable life, and is, generally speaking, the chemistry of the compounds of carbon—carbon being the basic element in all organic matter.

Inorganic chemistry, on the other hand, deals with the compounds which form the mineral part of the earth. In addition to carbon, (which, as an element, is widely distributed in nature in its free state, as diamond, graphite or black lead, and in its amorphous form as charcoal and lampblack), organic compounds usually consist of one or more of the gaseous elements hydrogen, oxygen and nitrogen, as well as sulphur.

The Hydrocarbon Family

Petroleum is the best example of a related series of organic compounds. It consists chiefly of a mixture of a number of related compounds of carbon and hydrogen, which are called hydrocarbons, with smaller quantities of sulphur, nitrogen and oxygen that are also chemically combined.

In crude petroleum, or any petroleum product, there is always a definite relation between the amount of carbon and the amount of hydrogen in the separate hydrocarbons, a mixture of which latter goes together to make up petroleum. These separate hydrocarbons vary greatly in their characteristics depending upon the different proportions in which the carbon and hydrogen are chemically combined.

Thus we see that carbon is one of the chief chemical constituents of petroleum, but it has so completely lost its identity that before the carbon can be reclaimed the compound must be broken up into the elements of which it consists.

Any organic substance may be decomposed by subjecting the substance to a high temperature without a free supply of air. In such cases the gaseous elements combine with other elements to form new compounds, while the residue that remains consists chiefly of carbon.

Under working conditions lubricating oils frequently are subjected to certain conditions involving high temperatures and the presence of a limited amount of air, in which case decomposition takes place to some extent. The question of the decomposition of hydrocarbons and the formation of carbon deposits, therefore, becomes of importance in problems of lubrication.

Not All Carbon

Let us bear in mind, however, that not all deposits from a lubricating oil are due to carbonization. In many cases the deposits that are found in bearings or oiling systems are due to ordinary wear, and consist, for the most part, of small pieces of metal resulting from metallic wear; or from rust combined with dust and other impurities from the air, while there is no evidence of carbon having been formed from the oil until the bearing had burned out.

The question of carbon deposits is of most importance in the lubrication of internal combustion engines. Because of the great amount of damage that can be done by the formation of excessive amounts of carbon in the cylinder, on top of the piston and on the valves, it is of extreme value to know the nature and the amount of carbon that will be deposited in use by a motor oil.

In order to obtain this information in the laboratory the Conradson carbon residue test was devised. This test tells us the amount of carbon that will be deposited by an oil when the oil is burned in a limited supply of air under definitely specified conditions.

The Conradson carbon residue apparatus, a sketch of which is shown in Figure 1, consists of the following:

A.—Porcelain crucible, wide form, glazed throughout, 25 to 26 c.c. capacity, 46 mm. diameter.

B.—Skidmore iron crucible, 45 c.c. (1½ ounces) capacity, 65 mm. in diam-

eter, 37 to 39 mm. high with cover, without delivery tubes, and one opening closed.

C.—Wrought-iron crucible with cover, about 180 c.c. capacity, 80 mm. diameter, 58 to 60 mm. high. At the bottom of this crucible a layer of sand is placed about 10 mm. deep, or enough to bring the Skidmore crucible with cover on nearly to the top of the wrought-iron crucible.

D.—Triangle, pipe stem covered, projection on side to allow flame to reach the crucible on all sides.

E.—Sheet-iron or asbestos hood provided with a chimney about 2 to 2½ inches high, 2⅛ inches in diameter, to distribute the heat uniformly during the process.

F.—Asbestos or hollow sheet-iron block, 6 to 7 inches square, 1¼ to 1½ inches high, provided with an opening in the center 3¼ inches in diameter at the bottom and 3½ inches in diameter at the top.

G.—Tripod.

H.—Burner, preferably of the Meeker type.

Carbon Residue Test Method

In making the test a sample of the oil to be tested is weighed in a porcelain crucible, which, in turn, is placed in the Skidmore crucible. The weight of the sample to be taken will depend upon the percentage of carbon residue in the oil being tested. If it is not greater than 1.5 per cent, a 10-gram sample of the oil should be used; if the carbon residue is between 1.5 and 3.0 per cent a five-gram sample; while if above 3.0 per cent a two-gram sample should be used.

The porcelain crucible and Skidmore crucible are then set in a larger iron crucible, being careful to have the Skidmore crucible set in the center of the iron crucible, covers being applied to the Skidmore and iron crucibles. The whole is placed on a triangle and suitable stand with asbestos block, and covered with a sheet-iron or asbestos hood to distribute the heat uniformly during the process.

Heat from a burner, preferably one of the Meeker type is applied with a high flame surrounding the large wrought iron crucible until vapors from the oil begin to ignite over the crucible, at which time the heat is slowed down so that the vapor (flame) will come off at a uniform rate.

The flame from the ignited vapors should not extend over 2 inches above the sheet iron hood. After the vapor ceases to come off, the heat is increased as at the start and kept constant for five minutes, making the lower part of the large crucible red hot, after which the apparatus is allowed to cool somewhat before the crucible is uncovered.

The porcelain crucible is then removed, cooled in a desiccator and weighed, and from this weight the percentage of carbon residue is calculated.

The entire process should require one-half hour to complete when the heat is properly regulated. The time, however, will depend somewhat upon the kind of oil tested, as a very thin, rather low flash-point oil will not take as long as a heavy, thick, high flash-point oil.

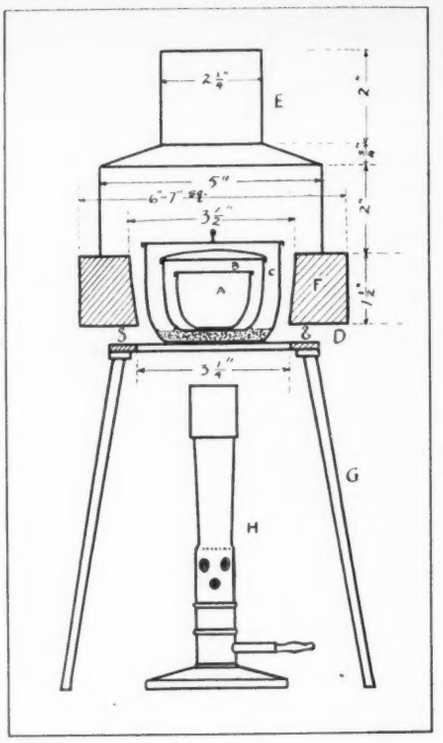

Fig. 1—Conradson Carbon Residue Apparatus

A—25 c.c. Porcelain Crucible.
B—Skidmore Crucible 65 x 37.
C—Wrought Iron Crucible.
D—Triangle.
E—Wrought Iron Chimney.
F—Asbestos or Sheet Iron Block.
G—Tripod.
H—Meeker Burner.

The above described method is the one most generally used in the laboratory in determining the carbon residue of an oil. Of general interest, however, are the following methods which are used by some refiners for determining the carbon residue of an oil:

1—Place 40-50 grams of the oil to be tested in a weighed 60 c.c. retort, which is clamped high over a low flame, holding the burner in the hand and imparting a fan-like motion to the flame. When distillation begins, gradually increase the applied heat until all the liquid has been driven off. Char the residue thoroughly, but take extreme care not to burn it. Cool and weigh the retort containing the residue, and from the weight of residue calculate the percentage of carbon.

2—Place 25 c.c. of the oil to be tested in a tared one-ounce flask and weigh. Wrap the neck of the flask with asbestos as far down as the side arm, stopper tightly with a good cork, connect to a small air-cooled condenser by plugging the space between with glass or wool, and provide a shield which will protect the flame and the flask up to the side arm.

Using the flame of a good burner, heat the flask so that the first drop of the distillate will come over in approximately five minutes. Continue the distillation at such a rate that one drop will fall from the end of the condenser for every single beat of a metronome set at 60.

As the end of the distillation approaches, increase the heat just enough so that the heavy vapors are not permitted to condense and drop back into the flask.

Continue increasing the heat until the flask is entirely enveloped in flame and then hold the temperature at this point for five minutes.

Allow the flask to cool, remove the asbestos covering and cork, and burn out completely the carbon and oil in the neck as far down as the side tube. Heat the bottom of the flask until no more vapor is given off, then cool and weigh and from the weight calculate the percentage of carbon residue.

Interpretation of Carbon Residue Test

This test is most valuable in comparing two oils that are similar in other physical characteristics, as an aid in ascertaining which oil will carbonize the least under working conditions.

The following table gives the tests on various grades of motor oils; particularly, it is decired to call attention to the percentage of carbon residue on the oils shown:

Auto Oils Light Grade	Gravity Be	Flash Deg. F	Fire Deg. F	Vis/100 Sec.	Cold Test Deg. F	Carbon Residue Per Cent
Sample No. 1	26.3	375	445	181	25	0.06
Sample No. 2	30.2	400	470	187	20	0.43
Sample No. 3	21.2	340	400	220	5	0.025
Sample No 4	20.4	340	400	224	15	0.11
Sample No. 5	25.1	390	455	200	10	0.18
Sample No. 6	31.4	390	450	164	35	0.06
Remarks: Samples 2 and 6 are from Pennsylvania crude and the difference in carbon residue indicates the difference between a well refined and a poorly refined oil. Samples 1 and 5 are from Mid-Continent crude, 3 from a Gulf-coastal crude and 4 from California crude.						
Medium Grade						
Sample No. 1	29.5	415	485	301	35	0.55
Sample No. 2	20.8	355	425	308	5	0.025
Sample No. 3	24.1	410	485	306	30	0.37
Sample No. 4	25.1	420	485	299	30	0.23
Sample No. 5	20.0	355	405	295	15	0.11
Sample No. 6	29.9	420	480	270	30	0.26
Remarks: Samples 1 and 6 are both from Pennsylvania crudes, but note the difference in percentage of carbon residue. Sample 2 is from a Gulf-coastal crude and shows the lowest carbon residue. Sample 5 is from California crude while 3 and 4 are from Mid-Continent crude.						
Heavy Grade						
Sample No. 1	28.9	440	510	481	35	0.65
Sample No. 2	19.9	360	425	524	5	0.05
Sample No. 3	19.0	380	440	480	15	0.19
Sample No. 4	28.9	410	460	525	35	0.86
Sample No. 5	24.9	415	480	489	35	0.60
Remarks: Sample 1 is from Pennsylvania crude, 2 from Gulf-coastal, 3 from California, and 4 and 5 from Mid-Continent crude.						

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From the results of the tests shown in the table it is readily seen that even on oils made from the same general type of crudes there is a considerable variation in the percentage of carbon residue formed. It is when such comparisons are made that one is better enabled to judge of the tendency of the oil to deposit carbon under working conditions.

The question then comes to mind as to the reason for one oil being higher in carbon residue than an oil of similar viscosity made from the same general type of crude. There are three main reasons for this:

First, because crude oils, although of the same general type, will vary in themselves in their elementary analysis, that is in the proportion of carbon and hydrogen of which they consist. This, therefore, regardless of the degree of refining, is reflected on the products from such crudes; for the tendency will be for the oil showing the larger amount of carbon on an elementary analysis to give the higher result when a carbon residue test is made.

Second, because of the variations on the part of the refiner in the degree of refinement given the oil, assuming, of course, that the general method of manufacture is the same. In making an oil of a given viscosity from a distillate off the same crude one refiner may acid treat and filter the oil to a greater extent than the other, the difference in the extent of treatment making a difference in the results of the carbon residue test.

Third, because of the variation in the methods of manufacturing oils of the same viscosity from the same type of crude. For example, one refiner may make his medium motor oil, having a viscosity of 300 at 100, by reducing a lubricating distillate from which the wax has been removed to such a viscosity as would give, after acid treatment and filtration, an oil of 300 viscosity.

An oil made in such a manner from the average Mid-Continent crude, if filtered to a 6 N.P.A. color, would show about 0.20 per cent carbon residue. On the other hand, another refiner might duplicate this oil in viscosity and color by reducing his wax-free distillate in the stills to such a viscosity as would give after acid treatment and filtration an oil of only 200 viscosity, which then would be blended up with bright stock to produce a 300 at 100 viscosity oil.

An oil made in such a manner from the average Mid-Continent crude would show about 0.30 per cent carbon residue. The higher carbon residue is due to the fact that the latter oil contains hydrocarbons of higher molecular weight than the former (and, therefore, higher carbon content as would be shown on an elementary analysis), since it is impossible to blend finished products to a given viscosity and duplicate the chemical composition of a straight reduced oil of the same viscosity.

Nothing has been said of the nature of the carbon formed from various lubricating oils—that is, whether soft or hard and crystalline. In the majority of cases, particularly if the oil is made from certain types of crude, the carbon formed as a result of the decomposition of the oil is soft and will usually pass out of the exhaust with the vapors.

In other cases it is harder, and hence passes out of the exhaust with more difficulty. Practical tests must be made in order to obtain this information concerning an oil, since thus far no satisfactory laboratory tests have been devised.

Having reviewed and discussed the more important tests that are made in the laboratory on lubricating oils let us bear in mind that the viscosity test is the most important one made to determine the suitability of an oil for a given purpose; that the carbon residue test is one of the most important—if not *the* most important—to determine the relative quality of an oil; that flash and fire tests are of no value in judging the lubricating qualities of an oil but are an aid in obtaining some information as to the point at which the oil will begin to volatilize.

Both gravity, flash and cold tests are an aid in identifying the source of an oil. The cold test is of practical importance since it gives us information concerning the temperature at which the oil will cease to flow in cold weather.

Shipping Board Changes Source Of Fuel Oil

By Special Correspondent

WASHINGTON, Sept. 20.—The United States Shipping Board, about the middle of the month, switched from the Anglo-American to the British -Mexican Petroleum Corp. as supplier of fuel oil for the board vessels at London, Southampton, Liverpool, Glasgow, Belfast, Tyne and Avonmouth.

Under the contract that went into effect then (the time is not certain because the London office of the board has control over that phase of the matter) the British-Mexican is obligated to supply not exceeding 50,000 long tons, about 375,000 barrels of commercial grade C bunker fuel oil, or better, with a viscosity not exceeding 300 seconds at 122 F; flash point not lower than 150 F, Pensky-Marten closed tester; sediment not exceeding 0.25 per cent and total water and sediment not exceeding 2 per cent, with a quantity deductions for all water and sediment in excess of 1 per cent.

The price delivered at terminals is to be 80 shillings per ton, about $2.51 a barrel, at Southampton for the Leviathan only and 82 shillings sixpense, about $2.68 a barrel, at all ports other than Avonmouth, where barge delivery is to be made at actual cost for the barge service, with a minimum charge for barge of £15, about $67.20. The contract runs for 6½ months.

Revelation of the making of that contract was made in a defensive manner. The board was subjected to inquiry by newspapers as to why it was necessary for American government vessels to buy fuel oil at British ports, when this country supplied more than two thirds of the entire world consumption.

The answer was that practically none of the fast passenger and package freight boats, the kind the public hears about, has bunker capacity enough to take on fuel for the round trip. The Leviathan has been taking aboard about 21,000 barrels at Southampton every time she turned her prow toward her home port. The board is trying to reduce the amount to 17,500 barrels, so as to obtain the benefit of lower prices in the United States. The contract price of 80 shillings per ton is more favorable, it is said, than could be obtained from the present supplier. It shows the addition of the cost of transporting it across the ocean, putting it into storage and then pumping it into the bunkers at Southampton.

As German ships, the Leviathan and several other of the board's crack passenger and package freight ships were as economical as they could be made. The Leviathan has a bunker capacity of about 9300 tons but she needs about 14,000 tons for the round trip.

She could not be made over with bunkers enough to carry oil for the round trip, even if she could carry the amount required at a cost less than that of carrying oil over in tank ships and supplying her bunkers from storage.

German ships that went into the British merchant marine are as economical for their British operators as if they had been built for them. Naturally, the shipping board has not made any estimate, for the public, whether this government got a white elephant when it spent $8,000,000 for re-conditioning the Leviathan after she had served as a troop ship, but the fact that the Leviathan must buy from 2500 to 3000 tons of oil each trip westward from Southampton, at a cost of about $2.51 per barrel, reckoning the British pound at $4.48, the figure at which the exchange stood the day this was written, and fuel oil at 7.5 pounds per gallon has suggested that she is akin to that kind of an animal, if all the factors of cost are considered, a thing the government never does, especially when the postmaster general claims a "surplus" for his department, or when a state governor tells about the howling success he has made with a gasoline filling station. Government accounting is always of the kind, when it relates to governmental operations, that would cause a banker to be sent to the penitentiary if he tried it in his book-keeping.

The revelation concerning the purchase of fuel oil for the American ships, in foreign ports, caused a jar to the pride of those who had been misled by the glowing accounts of what an oil burner could do in the carriage of freight. Only Diesel engine ships and tramp freighters can carry enough oil for a round trip.

Tourists Prefer Their Gasoline Cheap And Convenient

By Ward K. Halbert

STAFF REPRESENTATIVE

What Does The Gasoline Nomad Think Of Oil Business?

He fills up at your station, pays for his gasoline and is on his way in every make and vintage of car imaginable—the summer tourist.

He seldom makes a comment. Your station rarely sees him twice. But what goes on in his mind about the industry that supplies him the fuel that makes his travels possible.

In every evening's rest in a tourist's camp or along the wayside he unburdens himself to his fellow nomads. Mr. Halbert, staff writer for N. P. N. and L. B. Patterson, Chicago, of the Northland Oil Co., put on their old clothes and started out a hiking just to pick up rides with many tourists and egg them on to tell what they really think about the oil business. Sometimes their ears burned for they didn't let on they were oil men.

There's sometimes a chuckle and sometimes an idea for an oil marketer in Mr. Halbert's story and it's all good reading.—Editor

EAVESDROPPERS never hear any good of themselves, according to ancient lore, and L. B. Patterson of the Northland Oil Co., and I have experimented and learned the rule still holds good. It was not a personal matter.

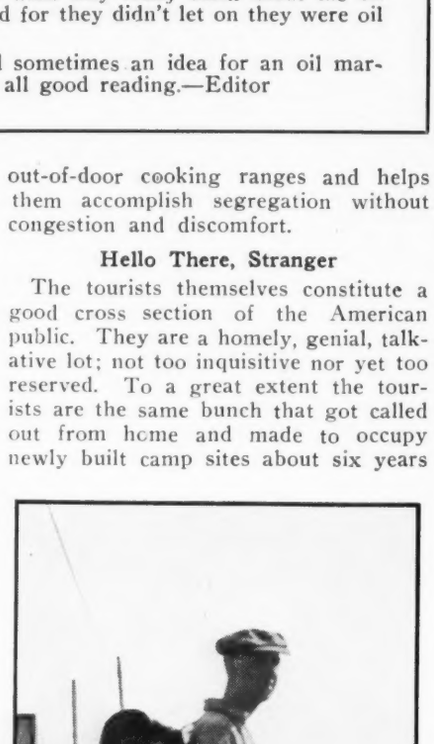
Mr. Patterson resolved to spend five days of his vacation in research to determine if possible what the summer tourist thinks of the oil industry. I went with him a good part of the way. We brought back a great deal of information but only a few words of praise. We heard a lot of criticism, bluntly put, for we did not tell our "subjects" that we were in the oil business.

For variety's sake it was decided to conduct the investigation in Wisconsin, because Wisconsin tourist can't be classified. They are just tourists. Most of them are white people from the south, but a great portion of the United States is generally southward from Wisconsin. Not more than a third of them hail from beyond that historic latitudinal parallel sometimes called the "Smith & Wesson Line." They are from everywhere, of every vocation, and in all manner of physical and financial condition. They travel in everything from flivvers to flying machines, and there are lots of them. That last point can't be overstated; there are lots of them.

Wisconsin has done a great deal for the host of informal visitors who motor into its lake regions every summer to rest and rusticate. Land owners have donated tourist camp sites; small town civic clubs have equipped these camps with shelter and in a few instances have piped them for water and gas; the state university assists these villages with the services of an engineer who lays out the driveways, locates the community house and parking ground, establishes out-of-door cooking ranges and helps them accomplish segregation without congestion and discomfort.

Hello There, Stranger

The tourists themselves constitute a good cross section of the American public. They are a homely, genial, talkative lot; not too inquisitive nor yet too reserved. To a great extent the tourists are the same bunch that got called out from home and made to occupy newly built camp sites about six years ago. They learned then that "Everybody is a good fellow if I mind my own business," and they learned to love a migratory life for a change. Now they have their wives and children with them and don't require so much discipline.



L. B. Patterson looking down the road in hopes of picking up a ride

Out on the road, tourists are different from the rest of the traffic. You can tell a tourist's machine a mile away because it bulges on the sides like a cow coming off a green clover pasture. While a resident motorist in his own community will pass up a pedestrian in most cases, especially if his feet look muddy, the tourist will not let anybody walk so long as there is a vacant seat in his car. There is something in common between a pedestrian and a man who drives a Ford. They never snub each other. However, no motorist will pick up a pedestrian at night. There has been too much rought stuff on the highways this year to make motorists afraid.

Mr. Patterson and I met by appointment in Eau Claire, Wis., at the C. & N. W. station on Sunday before Labor Day. In an hour we had lunch, got into hiking clothes and were out on the road. In 15 minutes more we were riding with somebody. We had resolved to ride with no one person more than 20 miles, because in that distance most men can tell nearly all they know about oil, although they can talk about the merits of different brands of automobiles for a day at a time and never get tired.

Sorry for the Independents

"It's a shame how the Independent oil men are treated," our benefactor told us. "They used to make 4 or 5 cents profit on a gallon of gasoline and now they only make five-eighths of a cent a gallon profit. A friend of mine down home is going broke every day. You see nobody makes any gasoline but Standard and Sinclair. If a little fellow gets any gasoline to sell he's got to get it from one or the other of them, and they just charge him whatever they want to.

"No. There ain't no difference in gasoline. It's all the same stuff, but the price. Quality gasoline—that's the bunk. Sometimes I think I'd a little rather trade with an Independent but half the time they charge you more. And then sometimes you have to hunt for them. Down in Hop Town (meaning Hopkinsville, Ky.) I trade with an Independent all the time. His place is handy and I know him and all the boys around the station; and then he credits me too. But out on the road this way

I just buy whenever I run out. It's all the same—what the H—"

This man's speech was a representative one. We interviewed between 40 and 50 people on this trip of roughly 800 miles, covering the distance in five days. Oil is as easy a subject to approach as the weather, and all of our new acquaintances were made to talk about it a little. The result of such a survey could not be considered conclusive to prove anything. Nevertheless it is remarkable that most of them agreed on the following points, many of which are wrong:

1. All gasoline is the same.
2. Lubricating oils are different.
3. Standard Oil Co. runs the industry.
4. Each is somebody's customer at home.
5. On the road they buy at handiest pump.
6. They appreciate courteous service.
7. Lubrication is an unsolved mystery.

During the past year a great deal has been said about educating the motoring public in the fundamentals of the oil business. The job of eradicating a lot of popular misconceptions is going to be a bigger one, if you ask me. The worst side of the story is not what the motorist does not know. It is what he most earnestly believes. The first man we rode with, for instance, who thought nobody could refine oil but Standard and Sinclair, must have been told that by somebody. And here is another one that is good.

Better than a hotel, lots cheaper, and more fun, many summer motorists think

"Oh yes! Why there is all the difference in the world in lubricating oils. I don't mean light, medium and heavy. I mean other ways than that. They have all kinds of tests for lubricating oils—viscosity and flash and fire.

"You understand there are two main kinds of lubricating oils; paraffin and asphalt. Now asphalt, you know, can't be a lubricant but paraffin is. There is only one kind of oil to buy and that's paraffin. You can't buy that from anybody but the Standard Oil Co. though. Nobody else has got any."

"Is that so?" said Patterson, in a tone of voice that made me think he was going to disclose his identity. He has a few Pennsylvania products to sell himself.

"Sure!" said the man at the wheel. "The Standard Oil Co. got all the paraffin oil wells sewed up a long time ago. If you don't believe it, go to a drug store and ask for a box of paraffin wax. You will see on the package that it is made by the Standard Oil Co. Every bit of it is. It stands to reason if anybody else had any paraffin oil they would make paraffin wax—now don't it?"

A 100,000-Mile Car

Most of the traffic was north and south in Wisconsin, naturally, but we were heading across to Lake Winnebago and held to a more easterly direction. Some of the time we were off the paving. On one of these unfrequented roads late Sunday afternoon we encountered a big powerful car in the ditch. It was not damaged and when we helped the man out he took us to ride even though his back seat was full of family and baggage.

Hoping he never sees this—he was the most reckless driver I ever saw with a wife and baby in the car. "It is hard driving in this sand, but I'd rather do it than to be bothered with the motorcycle cops over on the Green Bay road," was his first observation after a second narrow escape from slipping into a ditch.

"He makes unmerciful use of a car," said his wife between bumps.

"She thinks I am hard on a machine," he said, pointing at the speedometer. "This old bus has traveled 750 miles on its second hundred thousand."

"What kind of gasoline do you use?"

"The kind they sell at the next station after I find out I am getting low. And I am nearly that particular about my lubricating oil.

"Some gasoline is better than other kinds, of course, but you can never tell by the brand. These service station men buy from one refiner for a while and then from another without ever changing their trade name. Then I have an idea the same refinery puts out different stuff on different days. You can't ever tell what you are getting until you have used it and then it's too late.

"I just have one rule about oil. I change my oil every 500 miles or less. Any old slop ought to be able to stand up 500 miles. Some of it will stay good for 100 miles, they say, but I'm taking no chances, because I believe the conditions of a car has more to do with it htan the quality of the oil. And I do give the car the devil."

(Continued on page 71)

SUMMER tourists' ideas about the oil business as Mr. Halbert summarized them after talking to about 50 of them without their knowing he was an oil man:

1.—All gasoline is the same
2.—Lubricating oils are different
3.—Standard Oil Co. runs the business
4.—While a steady customer of one company at home they buy from the handiest pump on the road
5.—They appreciate courteous service
6.—Lubrication is an unsolved mystery

Please The Motorist and You Hold His Business

Every motorist who pulls up at your station should leave it with a pleasing, favorable impression of you and your company---if you want him to come again.

"PUBLIC OIL FACTS BOOKLETS" distributed at your filling station once a month will retain the good will of your old customers and bring new ones.

You'll find part of the contents of one of these booklets below. Glance over it.

Fried Clams, Gasoline and Antiques

SO READ a sign on a bit of old fence board along the road that lay along the New England coast, scene of some three centuries of this country's most colorful history. The road wound past an old unpainted farm house near which was the sign that thriftily appealed to one's stomach, vehicle, love of art—and pocketbook.

We pulled up for a moment to laugh at the mixture. Clams and gasoline, how they must taste together! What state was one in after eating a product of the sea and then imbibing this modern elixir of travel, that made one subject to the purchase of antiques—a motley collection of well-used kitchen chairs and tables?

And a day further along, on a chair by the roadside was a five-gallon crock that could find no place in these two-by-four closets that pass for pantries in a city apartment or home. Pinned to the white napkin over its wide top was a bit of brown paper, being a sign and stating "Home-Made Doughnuts." A rap on the brass knocker brought forth a second edition of Mother. And so, munching some of the best doughnuts you ever ate, we vagabonds hummed on our care-free way.

And after a while, way out on the dead-end road to Marblehead, the speedometer cable needed attention, and we found a Yankee with professor-like steel spectacles at the back end of a garage teaching a mechanic how to temper tool steel. Technical schools like "Boston

Good Gasoline Today

EVERY once in a while you will hear some motorist complain that the gasoline of today is not the "fine stuff of 68-70 or 72-74 gravity" of the past. That was fine motor fuel ten to twenty years ago, but in relation to the engines of that day it was no better than the motor fuel of today is in relation to the engines of this day. In fact, today's engine gets more out of the fuel for the motorist by far than was dreamt of ten years ago. You never

Why 10-Cent Gasoline?

THE Oil Industry is spread over so vast a territory and practically all of its producing fields are so far removed from centers of population that much happens within the Oil industry that never reaches the eye of the general public. Were our vast Oklahoma producing fields, for instance, over in New Jersey, right handy to the scrutiny of New York newspapers and the scores of special writers, the public would hear of a lot of things that would put the industry in an entirely different light.

"PUBLIC OIL FACTS BOOKLETS" carry your advertisement and personal message on the back cover, if you wish.

Ask us how you can profit by this plan.

The National Petroleum Publishing Company
812 Huron Road : : : Cleveland, Ohio

Please send me more information on the "PUBLIC OIL FACTS BOOKLETS" and how my company can profit by them.

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Company..... .....

So saying, he attempted to make a south curve too short and buried his radiator in a sand bank on the east side of the road. When we got him out of this. Pat and I decided we were going straight a-head. So we parted company.

After a long walk we put up that night in one of those wayside establishments that calls itself a Tourist Hotel. There are plenty of them along the road so there is no reason for a tourist sleeping out of doors unless he distinctly prefers, and most of them do. Two home-cooked meals and a bed for the night for $1.50 was the rate, American plan, and the proprietress says that is fairly uniform with such institutions. The fare was plain and plentiful, and the bed was clean. However it had no advantages over what the average tourist can do for himself with the equipment he carries. Caught in the rain with the tent rolled, one of these hostelries might be worthy of consideration.

A Thirst for Information

One thing tourists are perpetually in want of is information. Although it does not actually matter much where any particular tourist is, he wants to know at all times just where he is.

"Now where are we?" Somebody in the back seat wants to know.

"How far are we from Hoozus, daddy?" Also from the back seat.

"Ain't it funny," a fellow wearing an army discharge button observed as we drove into a small town. "In France the first house in the village always has the name of the town on it. It may be only a Michelin tire advertisement but it has the name of the town just the same and you know where you are at. Whether you can pronounce it or not you can find it on your map. But here in Wisconsin you have to go into a drug store and call up the postmaster to find out the name of the place."

Just in this connection, it is worth mentioning that in spite of all that has been said about it, the information to be had at the average "gas pump" is surprisingly little. The first fellow who picked us up Monday morning was a doctor from Peoria, Ill. And here is what he said about it:

"When I am out on the road like this I always burn Red Crown gasoline. I feel that the station is entitled to my patronage when they have given me my directions. I have observed that the most dependable information to be had in strange towns is from the Standard Oil Co. pump boys. They are nearly always posted on the condition of the roads in every direction. They can tell you something about the hotels in the next town. They are familiar with mileage from place to place, and I trade with them for that reason. I find them a pretty intelligent lot.

"Down in Peoria I trade with some Independent firm that sells a high test gasoline. I do a city practice down there; calling on patients all day sometimes. My motor does a lot of cold

FROM the "gusher" to the "loading rack" effort has succeeded effort, no doubt, to insure the present Quality of your product.

How essential is it then that the Sample Oil Bottles which display your stocks to observing buyers, should represent faithfully and to advantage this Quality you are so proud of?

Our seamless Oil Bottles of clear flint glass have rendered valuable sales assistance to the oil industry for many years. They are available in 2 oz., 4 oz., and 8 oz. sizes with ground and polished bottoms when specified.

We want you to see for yourself how attractive your oil sample will appear in one of these crystal clear bottles. Write us today for a free sample bottle.

Illinois Glass Company

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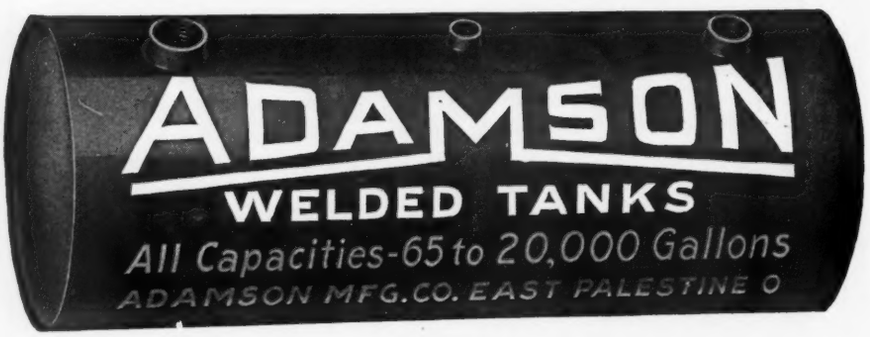
Branch Offices In All Principal Cities.



WHO'S
GOING TO WIN?

Will the coming election see the Democrats or Republicans in power? Frankly, the question isn't worrying us a bit, nor should it worry you. Business—better than usual, should be the object of all our efforts.

Regardless of who wins the election, good times are on the way, and many jobbers feel that they win ALL the time, when they take advantage of our service and high-grade petroleum products.

Why not send us your name and let us show you why?

The Globe Oil & Refining Co.
Manufacturers Petroleum Products
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Tulsa, Oklahoma

starting, and high test is better for that. They say high test gasoline helps to keep the car out of the garage too, and if it does I am willing to pay for that because I would be handicapped without my own machine. I think the gas I use is called Gold Coin.

"I don't know anything about lubrication. That is a science in itself. I have a great many things to study to keep with my profession, without worrying about lubricating a gasoline engine. The man who sold me the car tells me how to lubricate it. He tells me when to change the oil—usually I am by the place once or twice a week. He puts in whatever oil he thinks my car needs, and he ought to know; that's his business."

Concerning the Price

Right after lunch time on Monday we traveled 20 miles with two farmer boys from Arkansas. They were alternating at the wheel of a Ford that looked as if any mile might be its last one; but it continued to put the miles behind it. These boys were looking for a job and it was only natural that they were saving their money. They remarked that they had been getting gas at 11 and 12 cents in some places, and they continued to shop along the road at every pump for a bargain. This incident would not be worth relating however if it were not for the next car we caught.

Again there were two boys in the front seat, but the whole atmosphere was different. These two young men were college athletes on vacation. They had all the appearance and lettered sweaters to bear out their claims which were not made boastfully. They were driving a fine new car, and they were well groomed and well dressed. They said they had come from Des Moines. But like the other two boys, they claimed to have made some good purchases of gasoline in transit and kept watching cards on way-side pumps for a cut-rate station.

In their case it was no lack of money. They might not have been rich but they did not feel poor for they played "Automobile Poker" at $1 a shot all the time we were in their car. Finally when they decided they had to have gasoline, Patterson tried to pay for it and they would not permit him. One of them thought he read Pat's motive and stated voluntarily, "I don't mind spending a dime but I certainly hate to be beat out of one." One cent a gallon on 10 gallons was what he considered being beat out of a dime.

A couple of men whose appearance indicated that they were father and son proved to have considerable experience in the garage business. The boy had some ideas about oil that were not half bad, although he did couch them in the language of an unlettered swain.

"Gasoline ain't what it was before the war," he said. "They are coming to make heavier and heavier gasoline all the time; trying to get more of it out of the crude oil I guess. The stuff is

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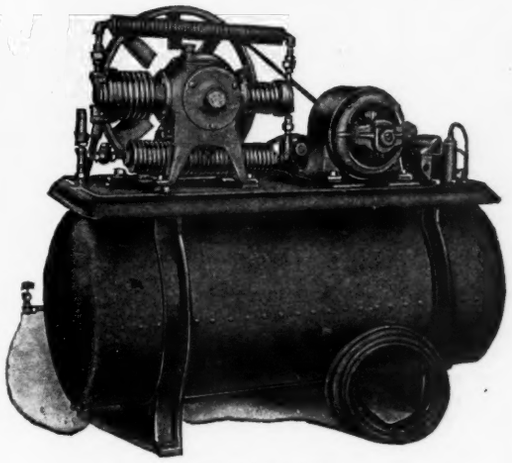
Built for Real Service



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MODEL G-18 "QUINCY"

The "Silent Air Master" special Two Stage unit complete.

This outfit has a 20x48 tank and has AIR TO SPARE for most any Service Station. It is a fast pumping and silent running unit, complete in every detail and is strictly a Quality Compressor all the way thru.

Did you ever notice how accessible the Quincy is? You have only to remove the top cover held by four screws and all the bearings are before you.

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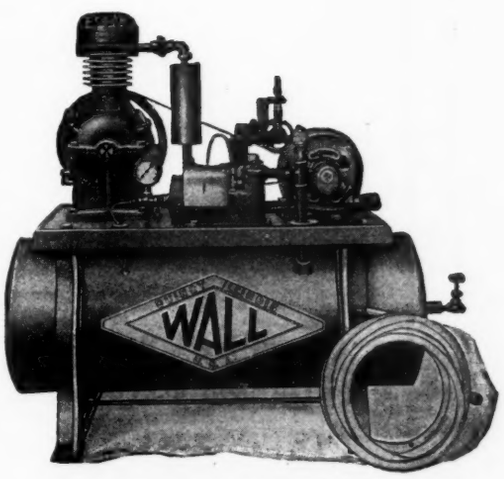

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The "Air Marvel" single stage unit.

This unit is designed for the Station having less demand for air and for the man who wants a smaller unit. It is of tested quality throughout, completely automatic and the most economical outfit both from first cost and cost of operation that money can buy. Note how ruggedly built it is. Every bearing and working part easily accessible.

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We Specialize in and Build Nothing but Air Equipment

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Please send me more information about Quincy Air Equipment.

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There is a Blackmer Unit to fit any pumping requirement of the Oil Industry. Capacity range from 5 to 500 gallons per minute.

They take up their own wear automatically; maintaining high efficiency after years of service.

Write us about your pumping problems. Our engineers are at your service.

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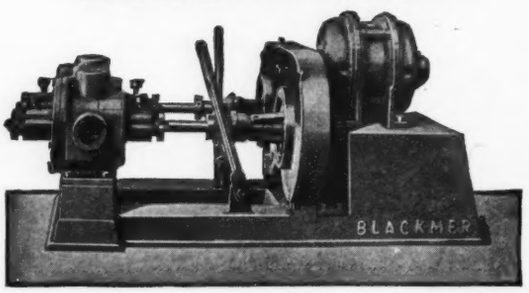
BLACKMER ROTARY PUMPS



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CYLINDER ENGINE CORDAGE

RED AND PALE PARAFFINE OILS

a lot harder on a motor than it used to be. It don't all burn up when it fires and it thins up the oil in the crank case so much faster. It don't make no difference how good a lubricating oil you buy, it can all be ruined mighty fast with bum gasoline, especially if the engine is on the hummer. If a fellow has a good motor he hadn't ought to put anything in it but the best lubricating oil.

"What is a good oil, did you say? Well, a good oil is one that will stand up and do its work when the engine is hot; and then it ought to make a good seal so you will get the full use of your gasoline; it hadn't ought to get too thin when it's hot nor too stiff when it's cold."

The younger of the two men never spoke another word however after the matter of price was suggested. His father took the speaker's platform and held it for the next six miles. His slant was that of a politician. He was perfectly sure the oil business was over 90 per cent profit.

"They can take five or ten cents a gallon off the price any time they want to or they can add on some, it don't make no difference. They've all got more money than they can shake a stick at. The feller that runs a garage gets 2 cents for pumping gas out of his tank, and the tank don't cost him nothin'. That feller that runs the tank wagon must double his money. I think 10 cents a gallon would be a good price for it."

"Would you be in favor of having the government control the oil business?" Pat inquired, thinking he might be a follower of La Follette.

"How in 'ell can the government control the oil business when the oil business controls the government already?"

"We'd be much obliged if you's let us out at the next cross road. We are going east from here," said Pat.

City Plans Method Of Handling Waste Oil

LOS ANGELES, Oct. 1.—Signal Hill, which recently became a city of the Sixth class, by vote of those who reside in that area, has just completed a plan, through action of its board of trustees, for the abatement of a waste oil nusiance which has long existed there.

A contract has been awarded to Ballenfont & White, petroleum engineers, for the handling of this waste which flows into the streets from sump holes around the hundreds of wells on the hill. The contractors are creating a large sump hole on Anderson street, and all waste crude from different parts of the field will be piped to that place. The gathering lines are already under construction.

The plan calls for pumps to lift the waste oil over the hill to Anderson street, from the distant leases, and all companies will be required to connect their sumps with the gathering lines.

COMPLETE NEWS INDEX FOR SEPTEMBER

HEREWITH N. P. N. publishes a detailed index of all articles appearing in its September issues, outside of routine department news which the reader will have little difficulty in finding in back issues because of its relative same position in each issue.

The indexing has been done by using the heading for the article, or at least enough to identify the article.

This new departure is offered by this publication because of the insistence of many readers that they be given some form of index. If readers who save their issues of N. P. N. for reference purposes will tear out these pages and file them they will have a complete index to all articles appearing in its news pages outside of routine department news.

Readers will also notice that each issue carries on its second news page a short index of special articles and giving the pages on which all departments are to be found. This complete index is offered for reference purposes only, to be torn out of the issue each month carrying it and filed. If the form in which it is here offered can be changed, or new listings introduced to make it of greater reference value to readers, the editorial staff will appreciate it if readers will give their suggestions along this line.—Editor

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New Oil Station Construction

Ft. Worth, Tex.—Seven applications for filling station permits were filed recently, as follows: W. C. Hedges, 2220 Evans Ave.; Guy W. Daniel, 711 Commerce St.; R. A. Stuart, 9th and North Commerce Sts.; Abbott Auto Co., 228 West 11th St.; Ellis Ivey, Sylvania and Central Sts.; Riverside; J. N. Brooker, 1200 Calhoun St.; and H. A. Jones, 2219 Evans Ave.

* * *

Highland, Kan.—Ed. Walton building filling station on the paved road between Troy and Blair, which he will operate together with a fruit stand.

* * *

Saginaw, Mich.—Andrews-Linton Coal & Oil Co., which is successor to U. S. Distribution Co., has erected a filling station to handle Indian Refining Co.'s products.

* * *

Greensburg, Kan.—Winters Oil Co. building bulk stations at Haviland and Mullinville, Kan., according to F. H. Winters, manager.

* * *

Albuquerque, N. M.—Home Oil & Supply Co. has just opened filling station here, reports J. C. Pillam, owner.

* * *

Seguin, Tex.—R. L. Knolle buys site for filling station, which will be operated by H. S. Mansfield.

* * *

Plattsburg, Mo.—J. F. Reedy and George T. Harper seeking permit to build filling station.

* * *

Springfield, Ill.—E. C. Fitzgerald has filed petition for erection of filling station.

* * *

Nashville, Tenn.—Standard Oil Co. of Louisiana buys property for filling station.

* * *

Jeffersontown, Ky.—Standard Oil Co. of Kentucky purchases site for filling station.

* * *

Olney, Ill.—Indian Refining Co. buys property, presumably for filling station.

* * *

Rolla, Mo.—Filling station and garage to be built here for A. M. Light.

* * *

Monroeville, Ind.—Marvin Hively buys property for filling station.

* * *

Angola, Ind.—Lincoln Oil Refining Co. to build filling station.

* * *

Alma, Neb.—Community Oil Co. to build filling station.

* * *

Arthur, Ill.—L. E. Riley buys site for filling station.

* * *

London, Ky.—S. D. Stacy building filling station.

buy

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THE PUMPS THAT HAVE THE PUBLIC CONFIDENCE

THE confidence the public has in MILWAUKEE fine pumps is equalled only by the faith of the filling station owners.

The highest standards and utmost care are exercised at every step in the building of these pumps.

Throughout the industry the name MILWAUKEE is accorded respect, because it represents a product of the highest quality, workmanship and refinement. Write today for the amazingly moderate prices and full details.

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10 *and 5 gallon bowls. Patented interlocking valves. Double Cylinder. Oversize filter. Smooth, silent operation.* Fast. *Brilliant night illumination—special MILWAUKEE light refraction. Trade-attracting design and finish.*

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581, Air operated

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St. Louis *1119 Title Guaranty Bldg.* Detroit *403 Wormer-Moore Bldg.*
PARIS ROTTERDAM LONDON

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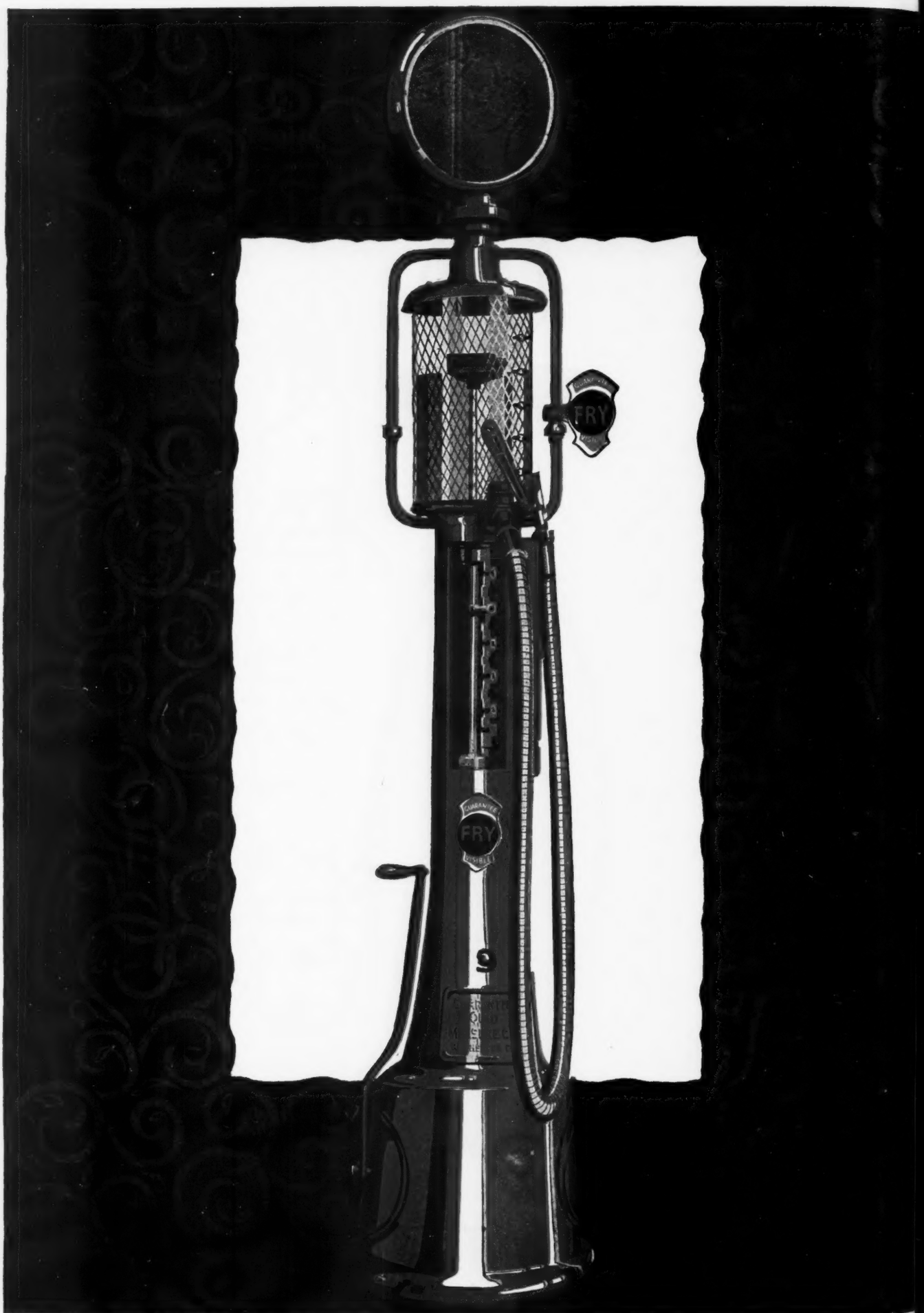
PUMPS : "LUB" OUTFITS : AIR COMPRESSORS : "KANT-LEEK" UNDERGROUND TANKS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ACTURING CO.
Ohio

US
AGE TANKS

Phillips' Ranch One Of Colorado Show Places

By Special Correspondent

DENVER, Oct. 3.—Denver newspaper men recently enjoyed the hospitality of Waite Phillips, an Oklahoma operator, at his immense ranch 15 miles south of the city. Colorado is the play ground for more than one wealthy Oklahoma oil man. The ranch embraces 18,000 acres and comprises an estate that would have a good setting among some of the old estates of Europe.

In the center of it, on a high eminence from which there is a wonderful view of the mountain range for miles north and south, stands the ranch house. That is not a good name for it, however, as its size, architecture and furnishings are more in keeping with a palace as we pictured such a place in our childhood fancies. The principal building has 18 bed rooms alone and the number of other rooms would be hard to guess. The building is constructed of natural rocks about the size of a man's head and is set in a bower of flowers, lawn and shrubbery.

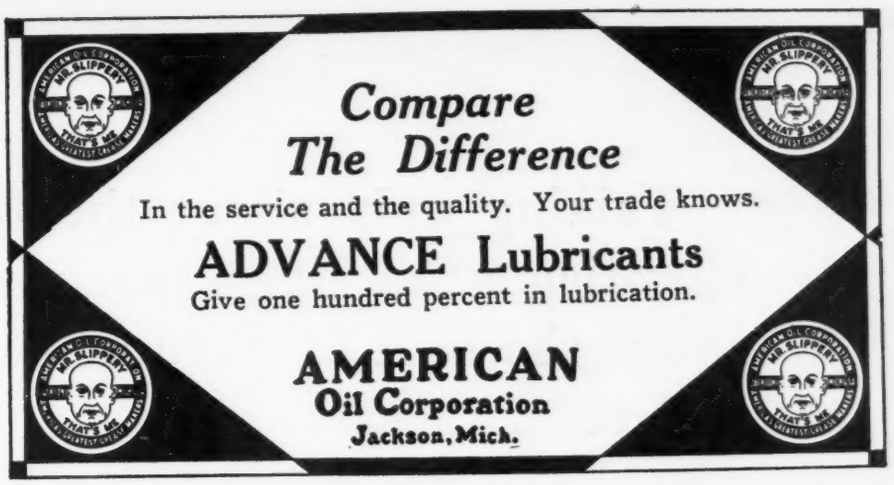
The main building is surrounded by the homes of the superintendent and men in charge and structures for the workmen comparable to the average city residence. Nearby are the stables in which are housed some of the finest bred horses in the west. A specialty is made of raising high-bred stock and cattle and among the inhabitants of the pasture adjoining the ranch house are three buffalo, three sacred bulls and cows from India, elk, and smaller game animals.

A dairy is operated in conjunction with the estate and Phillips also controls a few retail grocery stores in Denver through which products of the ranch are marketed. He uses the same trade mark for his milk that he does for his gasoline in Oklahoma and it is understood that he expects to commence the retailing of gasoline in Colorado along with his milk. He also has some oil holdings in the state.

In spite of his large investment in Colorado, Phillips spends only a few days each year at the ranch. It is the smallest of three owned by him. One at Cimarron, New Mexico contains 75,000 acres and another in southern New Mexico is even larger.

J. D. Canary, another Oklahoma operator who opened the Canary pool, has a country estate in the same district upon which there is a small palace set among trees back of a wide expanse of blue grass that offers a relief for tired eyes. He also makes a specialty of breeding fine cattle while following his main occupation of drilling for oil.

HOUSTON, Oct. 2.—W. R. Trelford, of the Humble Oil & Refining Co. executive offices, is spending his vacation period on a trip that includes Havana and New Orleans. He is expected back in about a week.



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What Does Good Oil Mean To You?

When salesmen call on you, with talk of "quality," "viscosity," flash," "price," "service," "delivery," et cetera, and you pick up your favorite trade journal and read more about this, that and the other fellow's "high grade, especially treated XYQ specified by the Prince of Wales, Peggy Joyce, and Sarazen" or words to that effect, how in the world do you know what to buy?

It's enough to drive the office boy to drink castor oil.

GASOLINE
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Some time — possibly right now—you may wish to try an oil that will speak for itself if you'll give it a chance. Empire is the name. Oil City is the location. Minimum size order accepted: "One ounce." Prices—**right**.

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It's what you get for what you pay that counts and nothing else

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A double Dubbs Unit will now handle 1500 barrels of gas oil per day, even though we only promised 1000 But we always take delight in doing more than we promise It's a keen pleasure and avoids apologies and explanations

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Owners of the Dubbs Process
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Doherty Men Visit Southwest

TULSA, Oct. 2.—An all-expenses-paid trip to the southwestern offices and plants of the Henry L. Doherty & Co. was recently awarded to 20 eastern representatives of its securities department for their work during July and August. The trip started with the Bartlesville offices under the guidance of A. B. Collins, manager of the customer-ownership department of the Empire Gas & Fuel Co., who was host to the visitors.

From Bartlesville, the party left for Tulsa to visit the offices of the Empire Refineries, Inc., the Cromwell field, the Okmulgee refinery and other Oklahoma properties of the Empire companies, including the new Burbank gasoline plant.

N.P.N. Ownership Statement

Statement of the ownership, management, circulation, etc., required by the Act of Congress of August 24, 1912, of NATIONAL PETROLEUM NEWS, published weekly at Cleveland, Ohio, for October 1, 1924, State of Ohio, County of Cuyahoga.

Before me, a notary public in and for the State and County aforesaid, personally appeared A. W. Brobst, who, having been duly sworn according to law, deposes and says that he is the secretary of The National Petroleum Publishing Company and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, The National Petroleum Publishing Company, Cleveland, Ohio; editor, Warren C. Platt, Cleveland, Ohio; managing editor, V. B. Guthrie, Cleveland, Ohio; business managers, none.

2. That the owners are: Warren C. Platt, Cleveland, Ohio; Bess H. Platt, Cleveland, Ohio; V. B. Guthrie, Cleveland, Ohio; A. W. Brobst, Cleveland, Ohio; Wm. H. Little, Tulsa, Oklahoma.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of the total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustees or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise to paid subscribers during the six months preceding the date shown above is (This information is required from daily publications only.)

(Signed) A. W. BROBST,
Secretary.

Sworn to and subscribed before me this 4th day of September, 1924.

(Signed) H. W. SLACK,
Notary Public.

(My commission expires 1-8-26.)

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VERY often extreme quietness of operation is essential to physical well being—it is always essential to good compressor performance—the more so because it is indicative of quality.

Of course a cheaply built compressor will be noisy—if not when you buy it—soon thereafter.

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A Brunner runs like a fine engine—with the same purring smoothness—and that gives you some idea of its capacity.

A Brunner starts quickly, runs smoothly without vibration, works fast, costs little to maintain and lasts long. Write for the Brunner Catalog.

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1924 Model 939 Two Stage Compressor

With 20 exclusive features a few of which are: Extra large intercooler. Ground Compact surfaces. Improved Belt Tightener. Removable Cylinders. Forked-type Connecting Rods—Minimizing vibration. Every part built with special tools and gauges, insuring absolute interchangeability.

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Field	10,000 gals.	in stock	Refineries
Storage	12,000 "		Complete
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Immense Stocks ***Immediate shipment***

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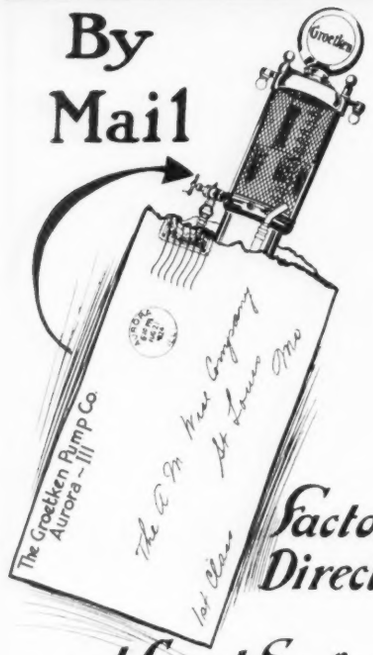

Factory Direct

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GROETKEN

JUMBO VISIBLE

ON THE purchase of three GROETKEN No. 76, 10-gal., or No. 57, 5-gal. Visible pumps by mail, from factory direct, you will be saving the cost of a good three weeks' outing.

"This would be a worth-while saving for our Company," you say, "but is the GROETKEN a good gasoline system, in keeping with modern, economical station pump practice—is it dependable in construction, material and workmanship and of pleasing, attractive appearance?"

Yes, indeed! And if you will permit us we can fully establish these facts.

Our Factory, Office and Sales Expenses are very low.
Buying—Factory Direct
Reorders by Mail from users
Simplicity in construction
Quantity Production
Our Buying Power—A-1
Up-to-date Manufacturing Plant
Established in 1912

This is why we can offer you this saving.

You are the Buyer—we are the Seller. Write us. Get our special price on three pumps.

The GROETKEN PUMP COMPANY
Established 1912
AURORA, ILLINOIS

Overtime Work That Costs You Nothing

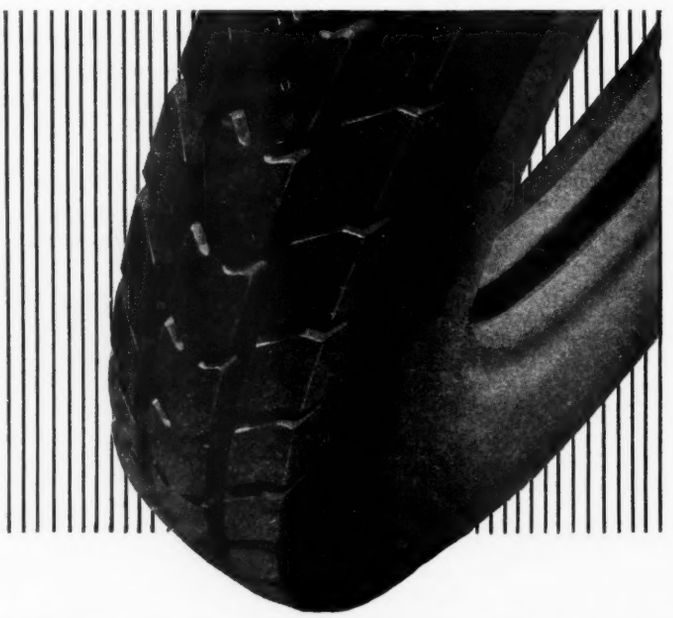
Federal Blue Pennant Truck Cords have the reputation of delivering thousands of extra miles after many other tires in similar service have been discarded.

All this extra mileage is actually overtime work and costs you nothing since the purchase price of Federals is no higher than other truck tires of quality.

What makes this remarkable service possible are the special Federal features developed during more than 20 years experience in tire building. The heavily strengthened side wall, the tread rubber, unusually tough yet soft and springy, and the scientific skid-proof tread design all combine to make Federals a profitable tire for any truck owner to use.

Remember running on Federals means adding miles and cutting costs.

Examine the Federal Blue Pennant Truck Cord at the Federal Authorized Sales Agency near you.



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METERS

They automatically measure and register any oil product that is pumped or that flows by gravity in a pipe or a hose. Many in use by refineries, jobbers and retailers.

Write for prices, testimonials and illustrated catalog.

BUFFALO METER CO.
Est. 1892
2889 Main St., Buffalo, N. Y.

ON THE LAZY BENCH

Legal Humor

"Hello, Moses, how long is you in jail for?"

"Three weeks."

"What did you do?"

"Killed my wife."

"And you just got three weeks?"

"Dat's all. Then they're going to hang me."

—Magnolia Oil News.

* * *

Addenda to "Legal Humor"

—when a tall lawyer named Short reads a 6,000 word document he calls a brief. —Magnolia Oil News.

* * *

A physiologist came upon a hard-working Irishman toiling, bareheaded in the street.

"Don't you know," said the physiologist, "that to work in the hot sun without a hat is bad for your brain?"

"D'ye think," asked the Irishman, "that Oi'd be on this job if Oi had enny brains?"

—Exchange Spark.

* * *

When a brother meets a brother
And a brother's dry;
Then each brother greets the other
With a Prohib. sigh.
Then they both drink ice cream soder
For there is no rye.
Helluva a way to treat a brother,
When a brother's dry.

* * *

An opulent-looking man drove up to the curb in an ancient car. Immediately he was accosted by a small boy.

"Watch yer car fer a nickel, mister."

"Beat it, kid. This car of mine won't run away."

"Nah, but I kin call yer when it starts to fall apart."—Union Oil Bulletin.

* * *

Lady: "What is that peculiar odor I get from that field?"

Farmer: "That's fertilizer."

Lady: "Oh, for the land's sake."

Farmer: "Yes, lady."

—Exchange Spark.

* * *

Less Liquor for Lizzie

Garage Man—How much gas do you want?

Driver—One gallon.

Garage Man—What's the matter? Weaning it? —Magnolia Oil News.

* * *

"You simply cannot find a maid who is honest. That one you recommended just left suddenly and took nine of my towels along with her."

"What kind were they?"

"They were those pullman towels I brought back from my trip."

—Det. Range Boiler & Steel Co.

—Or Chew Coffee

A lawyer was conducting a case in court, wherein one of the witnesses, a negro, confessed to being engaged in a crap game with the defendant. Immediately the lawyer said, "Now I want you to tell the jury just how you deal craps."

"What's that?" asked the witness, rolling his eyes.

"Address the jury," thundered the lawyer. "Tell them just how you deal craps."

"Lemme out of here," cried the witness excitedly. "Next thing I know this here gentleman's going to ask me how I drinks a ham sandwich."

—Magnolia Oil News.

* * *

Maybe It's Gravy

The orderly officer was inspecting rations.

"Any complaints?" he asked.

"Just taste this, sir," said a Tommy, presenting a cup of liquid.

"It's a very good soup," said the officer.

"Yes, sir, but the corporal says it's tea, and the cook says it's coffee, and I found a scrub brush at the bottom of the kettle."—Union Oil Bulletin.

* * *

Yumping Yiminy

Ole Oleson came into a little Minnesota village and inquired of the restaurant proprietor: "Got any squirrel whiskey?"

"No," replied the restaurant man, "but we have some Old Crow."

"Aye don't want to fly," said the Swede, "Aye yust want to yump around a little."—Magnolia Oil News.

* * *

A couple of clubmen were speaking of a fellow member when one remarked:

"I dislike to say it, but really Reginald is the most egotistical young man I have ever met."

"What leads you to say that?"

"Why, last week on the occasion of his birthday he sent a collect message congratulating his mother."—Kansas City Star.

* * *

"What you doin,' chile?"

"Nothing. mammy."

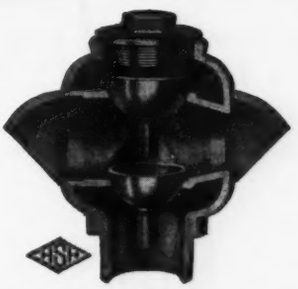
"My, but yo' sho' is gettin' lak yo' father."—Exchange Spark.

* * *

Correct This Sentence—

"No, dear, I do not want a fur coat this winter."

—Keene Thrusts.



HSH-340-VENT VALVE

A double acting vent valve that permits free flow of air to tank as contents are withdrawn and expulsion of air as tank is filled. Poppets have ground seats insuring an air tight tank, Valves have wire mesh screens to prevent back fire; any pressure or vacuum can be maintained.

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REFINERY-TANK WAGON MARKETS

Gasoline Demand Good In Group 3 But Prices Sag Slightly

Staff Special
TULSA, Oct. 4

DRASTIC tank wagon reductions throughout eastern and southern states following closely on the heels of the Mid-Continent crude cut last week have failed to shake the quiet strength of refinery markets in the southwest. The slight bulge in gasoline prices which came at the close of last week, has been worn away to some extent but trading has been at a fairly constant level.

Kerosenes have been steady. Distillates have advanced slightly but fuel oil has softened slightly, apparently as a result of the confusing crude situation in the Mid-Continent.

Movement of gasoline to the trade has been fair during the week. Jobbers have been buying quietly with some evidences of accumulation on the part of some of the stronger interests with storage facilities.

September weather was better at the close of the month than at the beginning. The fall appears to be earlier than it was in 1923, however, and motorists are not taking long fall trips in northern states as they did a year ago.

May Hold Down Operations

In several instances refiners are planning their runs of crude for the late fall and winter months on a different basis than they did in previous years. It appears probable that there will be less of an accumulation of gasoline against spring demand than has been noted in recent years.

The viewpoint of one large refiner in the field appears to be typical of the new attitude. This refiner told a National Petroleum News reporter today that he will limit his production of gasoline to the demands of his regular jobber customers. No material will be made for storage beyond a reasonable surplus to care for unexpected spot demand or an unavoidable shut down. In no case will this refiner offer or sell any goods to brokers during the winter, he said. He feels that when he must operate at a loss it will be just as well for the other fellow to get the business.

Taking the field as a whole refiners have not reduced their runs of crude thus far although several refiners have made substantial reductions. It is expected that the movement to curtail production will be more apparent in coming weeks as gasoline business decreases. There is a temptation to hold runs on a stationary basis as a result of the good prices being paid for kerosene, distillates and heavier fuel oils.

One Plans Curtailing

One refiner operating on high gravity crude in the western part of the state indicated that he is planning to reduce his scale of operations unless there is an adjustment in light crude prices more in line with the selling prices of the gasoline recovered. This refiner pointed out that he obtains a smaller proportion of heavier oils and a larger proportion of gasoline than refiners operating on heavier and cheaper crudes with a resultant inroad on profits.

Export markets were quiet during the week. One purchase of a half million gallons of U S. Motor was made in north Texas during the week. One exporter who was inquiring for both gasoline and kerosene, failed to buy, indicating that prices were not low enough to suit him.

As a result of the Prairie crude price reduction last week, U. S. Motor gasoline was offered more freely to the trade at 6¾ cents as the week advanced, with the heaviest grades, on which the demand is slackening, going at prices in proportion. At the opening of the market many refiners quoted the trade 7 cents, and a number of them offered no material at less than 6¾ cents, whether for resale or to the jobber.

Some refiners desiring to prevent any surplus from accumulating for which they feared they might have to accept lower prices sold at 6½ cents for resale for both prompt and immediate future shipment on Monday, but this price prevailed as the minimum figure at which material moved out of Group 3 at any time during the week. As the week closed, a few of the larger organizations continued their quotation of 7 7 cents to the trade, with sales admittedly limited at that price.

Cosden Quotes 7 Cents

Cosden & Co., which has been in the market with a policy of establishing prices at the figure required to meet competition and get business, maintained a steady quotation on offerings over the week, holding U. S. Motor at 7 cents and 57-59, 437 end point gasoline at 6¾ cents. The company has abandoned its former policy of quoting a resale price to the marketer and holds to a one price schedule at which all material leaves its plant. Cosden is understood to have largely depleted its former large stocks of gasoline.

Generally, the week saw little demand for motor gasoline for delivery over the remainder of the month. However, refiners are not inclined to offer out U. S. Motor at less than 6½ cents for future delivery, but with the jobbing trade restricting buying as the season of decreasing demand approaches comparatively little future business has been closed. The jobber is apparently determined to keep stocks down to a minimum, as hand to mouth buying operations now characterize his activity in the gasoline market.

High gravity gasolines continue firm. Demand is more active, and with the limited quantity in the field, there is less disposition to offer concessions. Jobbers are paying from 8¼ to 8½ cents for 60-62, 400 end point, and a minimum of 9¼ cents for 64-66, 375 end point. One sale of 60-62, 400 end point was made at 8¼ cents for delivery over a 10-day period.

Natural Gasoline Easier

Natural gasoline has suffered more during the week than any other product. Grade A, which was quoted from 8½ to 8¾ cents, weakened to the point where material could easily be had at 8¼ cents. Grade C, which moved at from 8¼ to 8½ cents on Monday, slumped to around 7¾ cents as the market closed, with Grade B available at

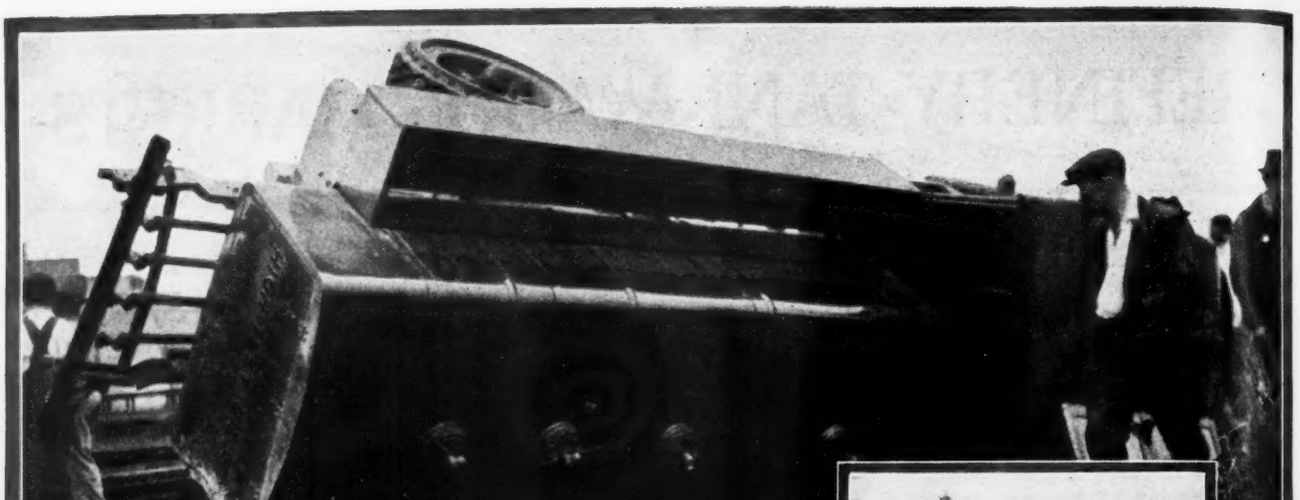
Oil Station Accounting

Model forms given and detail of necessary bookkeeping duties at both service stations and bulk stations; together with records and procedure for incorporating this station accounting into the home office double-entry bookkeeping system.

Written from the station agent's point of view by a man with practical auditing experience with a middle west marketing company.

Price 50 Cents per Copy

National Petroleum News
810 Huron Road
Cleveland



Photographs taken immediately after a 750 gallon, 4 compartment tank truck of Stoughton Oil Co. had been hit by a fast C. M. & St. Paul passenger train just one block south of Stoughton Depot. Accident occurred June 16, 1924, at 11:15 A. M.

Tank Turned Over By Locomotive —and It Didn't Leak a Drop

STOUGHTON, WIS., June 17.—A 750 gallon tank wagon of the Stoughton High Test Oil Co. was hit by a C. M. & St. Paul passenger train at the E. South St. crossing at 11:15 A. M. yesterday. The driver, who miraculously escaped death or serious injury was waiting for a switch engine to pass when his truck was hit by the fast passenger coming from the opposite direction. Although overturned in the collision, the tank was only slightly damaged and did not leak a drop.

THE Stoughton High Test Oil Co. uses Heil Truck Tanks for its gasoline delivery. The accident to one of their trucks described above, proved the genuine dependability of Heil Quality Tanks, not only to the Stoughton Oil Co., but to everyone who uses or is planning to use a Heil Tank.

The Tank truck was completely overturned when hit by a fast passenger train entering the Stoughton Depot. Naturally the sides and rear of the tank were dented and badly marred in several places, **BUT**, the tank itself stood up perfectly *and didn't leak a drop!*

Credit should be given to the electric-welders art! Heil is a pioneer in electrically-welding truck tanks and storage tanks. Tests made of Heil welds show that the weld is as strong as the steel itself. The steel plates are welded and fused together by Heil in such a way that they become a one-piece tank, sturdy and reliable and able to stand up under the hardest kind of abuse.

(Write for Catalog No. 135 and Prices)

THE HEIL CO.

1238-50 26th Avenue **Milwaukee, Wisconsin**

One of our Twenty-five Distributors is Near You

Quality TANKS BODIES & HOISTS "Made by Heil"

Refinery Markets On Light Oil Products

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas

GASOLINE AND NAPTHA

PENNSYLVANIA	Prices Oct. 6	Prices Sept. 29	Prices Sept. 22
52-54 Naptha	–10	–11	11 –11¼
54-56 Naptha	–10	11 –11¼	11¼–11¾
58-60 Gasoline	10 –10½	11 –11½	11¾–11¾
60-62 Straight-run gasoline	11 –11½	12 –12½	12½–13
62-64 Straight-run gasoline	11¼–12	13 –13½	13½–14
64-66 Straight-run gasoline	–13¼	14 –14½	14½–15
68-70 Straight-run gasoline	–16½	16½–17	16½–17
68-70 Blend, 437 E. P.	–10	10½–11	10½–11
64-66 Blend, 437 E. P.	–10	10½–11	10½–11
60-62 Blend, 437 E. P.	–10	10½–11	10½–11
68-70 Blend, 420 E. P.	–11	–11½	–11½
68-70 Blend, 400 E. P.	11 –11¼	–12¼	–12¼
OKLAHOMA			
48-50 450 E. P. naptha	6¼– 6½	6¼– 6½	6¼– 6½
50-52 450 E. P. naptha	6¼– 6½	6¼– 6½	6¼– 6¼
56-58 450 E. P. gasoline	6¼– 6½	6¼– 6½	6¼– 6¼
58-60 450 E. P. gasoline	–	–	6½– 6¾
58-60 U.S.Motor437 E.P.131i.b.p.	6½– 6¾	6½– 6¾	6¾– 6⅞
60-62 400 E. P. gasoline	8¼– 8½	8¼– 8½	8¼– 8½
64-66 375 E. P. gasoline	9 – 9¼	9 – 9¼	9 – 9¼
68-70 350 E. P. gasoline	10 –10½	10 –10¼	10 –10¼
NORTH TEXAS			
48-50 450 E. P. naptha	6⅛– 6⅜	6⅛– 6¼	6¼– 6½
56-58 450 E. P. gasoline	6⅛– 6⅜	6⅛– 6¼	6¼– 6½
58-60 450 E. P. gasoline	6¼– 6¼	6¼– 6¼	6¼– 6¼
58-60 U. S. Motor gasoline	6¼– 6⅝	6⅜– 6⅝	6⅜– 6⅝
60-62 400 E. P. gasoline	8 – 8¼	8¼– 8½	8¼– 8½
64-66 390 E. P. gasoline	8½ 8¾	8½– 9	8¾– 9
64-66 375 E. P. gasoline	8¾– 9	8¾– 9¼	9 – 9¼
68-70 350 E. P. gasoline	10 –10¼	10 –10¼	10 –10¼
NORTH LOUISIANA			
58-60 450 E. P. gasoline	6¾– 7	7 – 7¼	7¼– 7½
58-60 437 Navy Gasoline	7 – 7¼	7¼– 7½	7½– 7¾
64-66 390-400 E. P. Gasoline	8¾– 9	8¾– 9	9 – 9¼
ARKANSAS			
58-60 450 E. P. gasoline	6½– 6¾	7 – 7¼	7¼– 7¾
58-60 Navy gasoline	6¾– 7	7¼– 7½	7¾– 8
64-66 375 E. P. gasoline	8⅜– 9	9 – 9¼	9 – 9¼

NATURAL GASOLINE

Oklahoma	
Grade Double A, 80-87.9 Grav. 90% Rec. Not over 375 E.P.	– 8¼
Grade A, 72-79.9 Grav. 90% Rec. Not over 375 E.P.	– 8¼
Grade Double B, 84-92 Grav. 85% Rec. Not over 375 E.P.	– 8
Grade B, 76-83.9 Grav. 85% Rec. Nor over 375 E.P.	– 8
Grade C, 80-90 Grav. 78% Rec. Not over 375 E.P.	7½– 7¾

(Motor Natural Gasoline—Blends)

OKLAHOMA	Prices Oct. 6	Prices Sept. 29	Prices Sept. 22
Grade 1, 58-62 437 E.P.,91% Rec.	7 – 7¼	7 – 7¼	6¾– 7
Grade 2, 58-62 450 E.P.,90% Rec.	7 – 7¼	7 – 7¼	6¾– 7
Grade 3, 64-66 440 E.P.,88% Rec.	7 – 7¼	7 – 7¼	7 – 7¼
Grade 4, 66-70 435 E.P.,85% Rec.	7 – 7¼	7 – 7¼	7 – 7¼
Texas (Natural Gasoline)			
Grade Double A, 80-87.9 Grav. 90% Rec. Not over 375 E.P.	8 – 8¼		
Grade A, 72-79 9 Grav. 90% Rec. Not over 375 E.P.	8 – 8¼		
Grade Double B, 84-92 Grav. 85% Rec. Not over 375 E.P.	7¾– 8		
Grade B, 76-83.9 Grav. 85% Rec. Not over 375 E.P.	7¾– 8		
Grade C, 80-90 Grav. 78% Rec. Not over 375 E.P.	7½– 7¾		
(Motor Natural Gasoline—Blends)			
Grade 1, 58-62 437 E. P.	6¾– 7	7 – 7¼	6¾– 7
Grade 2, 58-62 450 E. P.	6¾– 7	–	6¾– 7

BURNING OILS

PENNSYLVANIA			
45 Water White	– 7½	7½– 7¾	7½– 7¾
46 Water White	– 8	8 – 8¼	8 – 8¼
47 Water White	8½– 9	8¾– 9	8¾– 9
300 Burning Oil	7¼– 7½	7½– 7¾	7¼– 7½
OKLAHOMA			
40-42 Prime White Dist.	4½– 4¾	4½– 4¾	4¾– 4⅝
41-43 Water White	4¾– 5	4¾– 5	4⅝– 4⅞
42-44 Water White	5 – 5¼	5 – 5¼	4⅞– 5⅛
NORTH TEXAS			
40-42 Prime White Distillate	4⅜– 4⅝	4⅜– 4⅝	4⅜– 4⅝
41-43 Water White Kerosene	4⅝– 4⅞	4⅝– 4⅞	4⅝– 4⅞
42-44 Water White Kerosene	4⅞– 5⅛	4⅞– 5⅛	4⅞– 5⅛
NORTH LOUISIANA			
41-43 Water White Kerosene	– 5	– 5	4¾– 5
ARKANSAS			
41-43 Water White Kerosene	– 5	– 5	4¾– 5
42-44 Water White Kerosene	– 5¼	– 5¼	5 – 5¼

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

8 cents. Manufacturers stated that the slow response to offerings caused the break in price and indicate that interest in future markets is largely lacking.

However, a considerable amount of Grade A for October delivery was purchased out of north Texas by Humble Oil & Refining Co., estimates placing the figure around 300 cars, at a price understood to have been from 8¼ to 8½ cents for doctor and corrosion test material. No other purchases of consequence for delivery over the month, were reported.

One of the larger manufacturers stated that 8 cents was the minimum figure he had quoted for October shipment on any grade, but quotations as low as 7¼ cents on Grade C and 7½ cents on Grade B have been offered, with Grade A available at 8 cents. The change in specifications by Association of Natural Gasoline Manufacturers has not yet brought about any change in quotations offered on the new grades added.

Kerosene Prices Firm

Kerosene, while not in heavy demand, has found a ready market at firm prices, and has moved to the trade at from 4⅞ to 5 cents. Marketers were able to find occasional cars of 41-43 water white at 4⅝ cents for resale, but most refiners asked 4¾ cents. Forty-two—forty-four water white was quoted from 5 to 5¼ cents. Future quotations are around spot prices.

Distillates have held firmly, and buyers seeking concessions have met with little success. Refiners not already having contracts covering the winter months are confining themselves to the spot market and quote from 3¾ to 3⅞ for 38-40 straw, and in proportion on 36-38 straw.

Gas oil was somewhat easier, but with little change in price. One refiner has sold his October output at 2¾ cents, and some spot material could be had at this figure but quotations generally run from 2⅞ to 3 cents, spot. One refiner sold a considerable quantity of 32-36 gravity material at 3⅜ cents for delivery over October. Generally, gas oil is more freely offered.

Fuel oil is more freely offered, and prices have dropped slightly. Fuel oil of 25-26 gravity has been bought at some plants for 90 cents, and while refiners are not inclined to take less than 92½ cents spot for resale, there is a tendency to accept slightly lower prices for delivery over the month.

Among the lubricating oils, cylinder stocks have been in heavy demand at some plants, and prices were unchanged. Neutrals have not fared so well, and lower quotations would not come as a surprise generally.

While several refiners continue sold up as a result of commitments made some time ago, the spot demand for wax is slower, and prices range from 5 to 5¼ cents. It is probable that more spot material will find its way to the market in the next few weeks.

WINTER HAVEN, FLA., Oct. 6.—The Florida Oil & Grease Co., with headquarters here, has just been organized with an authorized capital of $60,000. Officers are: J. E. Fortner, president; R. T. Hanna, formerly manager of the south-eastern division of the Transcontinental Oil Co., at Atlanta, Ga., vice president; and Crosby Gray, formerly general manager of sales at the Pittsburgh headquarters of the Transcontinental, secretary-treasurer.

The company will wholesale and retail gasoline, kerosine and lubricating oils.

Type A

Type No. 24

When You Buy a *Better* Faucet It Will Be a Wheaton

YOU now may be using Wheaton Faucets, but when you buy a *better* faucet IT will be a Wheaton. We will see to that! If you are not now using Wheaton Faucets, let us send you a sample—just to hurry the day *when you buy a better faucet.* Many of the largest oil companies have standardized on Wheaton. Send for the sample today.

A. W. WHEATON BRASS WORKS, NEWARK, N. J.

Wheaton

Refinery Markets On Lubricants, Heavy Oils

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas

NEUTRAL OILS

PENNSYLVANIA	Prices Oct. 6	Prices Sept. 29	Prices Sept. 22
(Viscous Test 70)			
290 Vis. No. 3 Assoc. Filt	-25	-24	-24
200 Vis. No. 3 Assoc. Filt	21 -22	21 -22	21 -22
180 Vis. No. 4 Assoc. Filt	19 -20	19 -20	19 -20
150 Vis. No. 3 Assoc. Filt	17 -18	17 -18	17 -18
(Non-Viscous)			
84 350-360 Flash	- 7½	- 7½	- 7½
96 Miners Neutrals 300-305 Flash	- 7	- 7	- 7

OKLAHOMA			
(Viscous Test 100)			
70 Vis. at 100°F. No. 2½-3 color	4¼- 4¾	4¼- 4¾	4¼- 4¾
100 Vis. at 100°F. No. 2 color	5 - 5½	5 - 5½	5 - 5½
100 Vis. at 100°F. No. 2½-3 color	4½- 5	4½- 5	4½- 5
150 Vis. at 100°F. No. 3 color	8½- 9	8½- 9	8½- 9
150 Vis. at 100°F. No. 4 color	8 - 8½	8 - 8½	8 - 8½
180 Vis. at 100°F. No. 3 color	9½- 10	9½- 10	9½-10
180 Vis. at 100°F. No. 4 color	9 - 9½	9 - 9½	9 - 9½
180 Vis. at 100°F. No. 5 color	8½- 9	8½- 9	8½- 9
180 Vis. at 100°F. No. 6 color	8 - 8½	8 - 8½	8 - 8½
200 Vis. at 100°F. No. 3 color	11½-12	11½-12	11½-12
200 Vis. at 100°F. No. 4 color	11 -11½	11 -11½	11 -11½
200 Vis. at 100°F. No. 5 color	10½-11	10½-11	10½-11
200 Vis. at 100°F. No. 6 color	10 -10½	10 -10½	10 -10½
220 Vis. at 100°F. No. 3 color	12½-13	12½-13	12½-13
220 Vis. at 100°F. No. 4 color	11¾-12½	11¾-12½	11¾-12½
220 Vis. at 100°F. No. 5 color	11 -11½	11 -11½	11 -11½
220 Vis. at 100°F. No. 6 color	10¾-11½	10¾-11½	10¾-11½
240 Vis. at 100°F. No. 3 color	14½-15	14½-15	14½-15
240 Vis. at 100°F. No. 4 color	14 -14½	14 -14½	14 -14½
240 Vis. at 100°F. No. 5 color	13 -13½	13 -13½	13 -13½
240 Vis. at 100°F. No. 6 color	12¾-13¼	12¾-13¼	12¾-13¼
280 Vis. at 100°F. No. 3 color	16½-17	16½-17	16½-17
280 Vis. at 100°F. No. 4 color	15½-16	15½-16	15½-16
280 Vis. at 100°F. No. 5 color	14½-15	14½-15	14½-15
280 Vis. at 100°F. No. 6 color	13½-14	13½-14	13½-14
300 Vis. at 100°F. No. 6 color	17½-18	17½-18	17½-18

SOUTH TEXAS			
(Viscous Test 100; cold test 0)			
100 Vis. No. 2 Color Unfilt. Pale	8 - 9	8 - 9	8 - 9
150 Vis. No. 2½ Color Unfilt. Pale	10 -11	10 -11	10 -11
200 Vis. No. 3 Color Unfilt. Pale	12½-13½	12 -13	12 -13
300 Vis. No. 3 Color Unfilt. Pale	14½-15¾	14½-15¾	14½-15¾
500 Vis. No. 3½ Color Unfilt. Pale	16¼-17¾	16¾ 17¾	16¾-17¾
750 Vis. No. 4 Color Unfilt. Pale	22 -23	22 -23	22 -23
200 Vis. No. 2 Filt. Pale	22½-23¾	22½-23¾	22½-23¾
300 Vis. No. 2 Color Filt. Pale	25½-26¾	25½-26¾	25½-26¾
500 Vis. No. 2½ Color Filt. Pale	29½-30	29½-30	29½-30
750 Vis. No. 2½ Color Filt. Pale	39½-40	39½-40	39½-40
200 Vis. No. 5½ Color Red Oil	10½-11¾	10½-11¾	10½-11¾
300 Vis. No. 5½ Color Red Oil	12½-13¾	12½-13¾	12½-13¾
500 Vis. No. 6 Color Red Oil	15 -16	14½ 15¾	14½-15¾
750 Vis. No. 6 Color Red Oil	19½-20¾	19½-20¾	19½-20¾

CYLINDER STOCKS

OKLAHOMA			
190-200 Vis. at 210 Bright Stock	29 -34	29 -34	29 -34
150-160 Vis. at 210 Bright Stock	26 -30	26 -30	26 -30
Medium Filtered Stock	16½-18	16½-18	16½-18
600 Steam Refined Olive Green	7 - 7½	7 - 7½	7 - 7½
600 Steam Refined Dark Green	5½- 6¼	5½- 6¼	5½- 6¼
Black Oil	3¾- 4	3¾- 4	3¾- 4

PENNSYLVANIA	Prices Oct. 6	Prices Sept. 29	Prices Sept 22
600 Steam Refined	-19¼	19½-20	18½-19¼
635 Steam Refined	-23½	23 -24	22½-23½
650 Steam Refined	-25½	25 -26	24½-25
600 Flash	-29½	29 -30	29 -30
600 Warren E	-24½	-24½	-24½
600 Oil City E	-24	23½-24	23½-24
600 Filtered D	29 -29½	29½-30	29½-30
Cold Test Stocks (bright filtered)	35 -36	35 -37	34 -35
Cold Test Stock (dark filtered)	33 -34	33 -35	32 -33
Black Oil	- 7	7 - 7¼	- 7

WAX

PENNSYLVANIA			
(Per Pound New York)			
122-124 White Crude Scale	5¾- 5¾	- 5¾	5¾- 5¾
124-126 White Crude Scale	- 5¾	- 5¾	5¾- 5¾

OKLAHOMA			
(Per Pound Group 3)			
124-126 White Crude Scale	5 - 5¼	5¼- 5¼	5¼- 5¼

FUEL OIL

PENNSYLVANIA			
36-40 Fuel Oil	5¼- 5¾	5¼- 5¾	5¼- 5¾
30-34 Fuel Oil	5 - 5¼	5 - 5¼	4¾- 5

OKLAHOMA			
38-40 Straw Distillate	3¼- 3½	3½- 3½	3½- 3½
36-38 Straw Distillate	3½- 3½	3½- 3½	3½- 3½
32-36 Gas Oil (Gal.)	2¾- 3	2¾- 3	2¾- 3¼
24-26 Fuel Oil (bbl.)	-	.95- 1 00	.95- 1.00
28-30 Fuel Oil		1.05- 1.10	1.05 1.10
Fuel Oil, buyers, cars (bbl.)	92½-.97½	.95- 1.00	.95- 1.00
20-22 Fuel Buyers	.90- .95	.95- .97½	.95 - .97½
40-50 Asphalt Content Road Oil	.90- .95	.90- .95	.90- .95
50-60 Asphalt Content Road Oil	.95-1.00	.95-1.00	.95-1.00
60-70 Asphalt Content Road Oil	1.00-1.10	1.00-1.10	1.00-1.10

NORTH TEXAS			
38-40 Straw Distillate	3½- 3¾	3½- 3¾	3½- 3¾
32-36 Gas Oil (gal.)	2¾ 2¾	2¾- 2¾	2¾- 3
24 26 Fuel, per bbl	.95 1 00	.90- .95	.90- .95
South Texas Fuel	1.50-1.60	1.50-1.60	1.50-1.60
South Texas Gas Oil	4 - 4¼	4 - 4¼	4 - 4¼

NORTH LOUISIANA			
32-36 Gas Oil (Gal.)	3 - 3¼	3 - 3¼	3 - 3¼
22-26 Fuel Oil (bbl.)	.85- .95	.85- .90	.90- .95

ARKANSAS			
40-42 P. W. Dist			
38-40 Distillate	- 4	- 3¼	- 3¼
32-36 Gas Oil	- 3¼	- 3¼	- 3¼
22-26 Refinery Fuel Oil	90 - 95	90- .95	90 - .95
Smackover Crude Fuel	95 -1 00	90- .95	90 - .95
East Field Crude Fuel	95 -1 00	90- .95	90 - .95

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the oregoing, will favor us with this information.

Chicago Prices Steady Although Jobbers Buy Less Gasoline In Open Market

CHICAGO, Oct. 4.—The oil market has been fairly steady in Chicago all this week, sufficiently active for the time of year, but with buyers restraining their purchases in expectancy of further price adjustments. The situation as a whole however has been characterized by this difference: a seeking of business by refiners instead of their waiting for buyers. Reports were the same at most refinery offices. As usual at this time of year, less gasoline is being consumed in the northern states. However, the weather in Standard Oil Co. of Indiana territory has been of a kind to stimulate consumption.

Business was being done in Chicago on U. S. Motor gasoline at 6½ cents during the last three days of the week. Orders in the open market were relatively few but jobbers were reported to be drawing heavily against their contracts. Gasoline of 56-58 gravity has about vanished from the sales sheets in this vicinity. Demand always grows slack toward the end of the touring season and the price for this grade is rather out of line with the market. Higher gravity gasolines were unchanged and prices were firm.

Kerosene has developed a little more strength. The supply is scanty so that prices are firmly held. Small quantities of 41-43 gravity are still available at 4¾ cents, but 4⅞ and 5 cents are being quoted on by most refiners. Prevailing quotations on 42-44 are 5⅛ and 5¼ cents and the product is not offered freely at these prices.

Manufacturers of distillate for domestic burners are enjoying a gratifying demand. Next to gasoline, household fuel is the most responsive oil product to the whims of the weather. In spite of moderate temperatures, the price of distillate has not come down during the last week due to the fact that the commodity is rather scarce. A few orders have been booked for 3¾ cent but most refiners announced their price as 4 cents and stated they were doing what business they wanted at this figure.

Gas oil has been reasonably active in most quarters but the price has not advanced. Nearly all of the business is being done between 3 and 3¼ cents. Strength of this product has been due in part to the use of high gravity gas oil in domestic burners. The product is firm at the above mentioned prices with limited supplies and light offerings.

Pennsylvania Refiners Absorb Only Half Of Latest Tank Wagon Reduction

CLEVELAND, Oct. 6.—Northwestern Pennsylvania refiners absorbed only about half of the 3-cent reduction in the tank wagon price of gasoline during the last week. This brings the price of 58-60 gasoline down to 10 to 10½ cents a gallon in tank cars at the refinery.

High test gasoline did not feel the effect of the price reduction so severely and 68-70 has held fairly steady. The tank car price of 64-66 declined only ½ to 1 cent a gallon.

The volume of gasoline trade is still good but prices at the new level are way below what is warranted by the cost of crude. While the posted price of Pennsylvania crude is $2.75 and $2.85 per barrel, the latter in the Bradford-Allegany district, the actual prices paid by the refiner for raw material delivered to his plant run 50 and 75 cents a barrel more. This means the actual price paid for crude oil is $3.25 to $3.60 a barrel.

It is doubtful whether any refiner gets all of his crude at the lower price. If he should pay an average of $3.36 a barrel this would run 8 cents a gallon. With the greater part of the products selling at 10 cents or less per gallon, his chances for profit are truly thin.

Cylinder stocks and paraffin wax are still largely sold up and prices consequently are firm in cases wherever a refiner may squeeze out some stocks for a spot customer. Quotations of many refiners are nominal because they are committed for several weeks to several months in advance.

Viscous neutrals oils have been more active during the last week and prices are stronger. Buyers who abandoned the market early this year are returning.

Demand for kerosene and fuel oils has held up well although more free kerosene is apparent in some quarters. This has resulted in a leveling of ideas by several refiners to a 7½-cent price for 45 water white.

Kentucky

Kentucky gasoline market reflects the tankwagon price reduction of last week but only slightly. For 58-60 the price is 8¾ cents at central Kentucky plants as against 9 cents a week ago. Quotations on other gasolines today were: 60-62, 10½; 62-64, 11; 64-66, 11½ and 68-70 12¼.

Gas oil is slightly easier at 4¾ to 5 cents, but 42-44 water white kerosene is firm at 7 cents and 24-26 fuel oil firm at 4 cents.

Fuel Oil Is Strong In North Texas

Staff Special

WICHITA FALLS, Oct. 4.—Fuel oil has been the strongest commodity offered in the north Texas refinery market during the past week. It has climbed steadily until sales are now being made at $1 per barrel. The supply of material at 95 cents is limited to small plants off the main railroad lines. Refiners are looking forward to even higher prices in the near future. Some have said that they expect the price to reach $1.10 per barrel before the end of October. Demand for fuel for immediate shipment has been excellent throughout the week.

Gas oil has not been affected materially by the higher market for fuel oil. Sales are being made at 2¾ cents per gallon and upwards. Distillate, however, has been in better demand and prices have advanced during the past few days.

U. S. Motor gasoline has been easier. Most of the trading is now being done at 6½ cents per gallon. One exporter has been inquiring for Motor with an offer of around 6¼ cents per gallon but has been unable to obtain the material he desires. An offer was likewise made for 64-66, 375 end point which refiners refused to consider. High gravity gasolines have been in good demand among domestic buyers and 60-62 has remained firm at around 8 cents with 64-66 close to 9 cents per gallon.

Kerosene continues to be one of the strongest items on the market. Some is available at 4¾ cents for delayed shipment but car numbers are hard to obtain.

Spot crude is inactive. Refiners are not inclined to buy now in the belief that the market has not reached bottom.

Oh Boy, Weather Forecast: Fair And Warmer

CHICAGO, Oct. 5.—Mostly fair weather is forecast for Standard Oil Co. of Indiana territory for this week. Scattered showers will fall in the region of the Great Lakes and along the Ohio river valley on Monday and possibly continuing until Tuesday, the weather bureau predicts. Thereafter the weather will be generally fair until the end of the week when showers are again probable. Temperatures will be cool in most parts of the forecast district during the showery period but will rise considerably about the middle of the week.

Last week was much fairer than the weather man predicted. The weather was all that any motorist could ask for, temperatures being above the seasonal average at times. Aside from a general rain which covered most of Standard of Indiana territory on Friday night, rainfall was much lighter than had been expected.

A 5½-inch fall of snow was recorded at Fox Park, Wyo.

Los Angeles Shipments Strike Average

LOS ANGELES, Sept. 28.—Petroleum exports from Los Angeles Harbor during the week ending yesterday amounted to 1,915,041 barrels, or about the same as the weekly average for some months past. Twenty-eight tankers conveyed this oil to its destination. There were 2 loads of gasoline, 9 loads of fuel oil, and 17 loads of crude. Two loads went to foreign ports in the Atlantic, one was billed as Atlantic foreign, 7 were billed as Pacific foreign, 4 as Atlantic domestic, and 16 as Pacific domestic, with 1 going to London. The shipments were as follows:

Sept. 20

J. A. Moffett to Point Wells, 64031 barrels crude for Standard Oil Co.
La Brea to Martinez, 73,885 barrels crude for Shell Co.
Miller County to Taurimi, 65,000 barrels crude for Sun Oil Co.
Semiramis to Yokohama, 51,077 barrels fuel for Shell Co.
Hagan to Iquique 54,871 barrels fuel for McAllister Bros.
Salina to Bayonne, 72,000 barrels crude for Struthers & Barry

Sept. 21

D. G. Scofield to Richmond, 79,600 barrels crude for Standard Oil Co.
Alden Anderson to Avon, 72,000 barrels crude for Associated Oil Co.
W. S. Miller to Richmond, 74,325 barrels crude for Standard Oil Co.
Tascalusa to Hongkong, 60,000 barrels fuel for Standard Oil Co.
Dixie Arrow to Bayonne, 87,500 barrels crude for Standard Oil Co.
Agwipond to Bayonne, 90,000 barrels crude for Associated Oil Co.
Victolite to Montreal, 107,000 barrels crude for Anglo-Saxon Petroleum Co.
Pleiodin to London, 60,000 barrels gasoline for Tankers, Ltd.

Sept. 22

Cuvama to San Fancisco, 55,000 barrels fuel for Standard Oil Co.
Montebello to Martinez, 74,300 barrels crude for Shell Co.
K. R. Kingsbury to Richmond, 79,593 barrels crude for Standard Oil Co.
Oleum to Port San Luis, 35,000 barrels crude for Union Oil Co.
W. M. Irish to Philadelphia, 79,682 barrels crude for Sun Oil Co.

Sept. 23

El Grillo to Vancouver, 65,000 barrels crude for Shell Co.

Sept. 24

M. H. Whittier to Seattle, 73,161 barrels crude for Associated Oil Co.
Calgarolite to Iquique, 85,000 barrels crude for Shell Co.

Sept. 25

Richmond to Portland, 64,111 barrels crude for Standard Oil Co.
Cathwood to Martinez, 75,000 barrels crude for Shell Co.
D. G. Scofield to Richmond, 79,600 barrels crude for Standard Oil Co.
Gold Shell to Yokohama 52,000 barrels fuel for Shell Co.

Sept. 26

W. S. Miller to Richmond, 74,325 barrels crude for Standard Oil Co.
Alden Anderson to Avon, 72,000 barrels crude for Associated Oil Co.

Tank Wagon, Service Station Markets
Gasoline and Kerosene

BELOW are given in cents a gallon, the tank wagon price of gasoline without the special taxes levied against motor fuels by many states, the amount of the state taxes, the total tank wagon price, with tax added in and the service station or retail price of gasoline as quoted by the Standard Oil Companies in their various marketing territories. The right hand column is the tank wagon price of kerosene. By tank wagon price is meant the price to resale agents or dealers. Usually this price does not apply to sales to consumers from tank wagons.

Prices in effect October 6

S. O. NEW JERSEY TERRITORY

	Gasoline			Oil	
	T.W.	Tax	Total	S.S.	T.W.
Atlantic City, N.J.	13.5	0	13.5	*	13
Newark, N. J.	13.5	0	13.5	*	13
Annapolis, Md.	13	2	15	*	12
Baltimore, Md.	13	2	15	17	11
Cumberland, Md.	13	2	15	17	12.5
Washington, D.C.	14	2	16	18	12.5
Danville, Va.	14.5	3	17.5	*	13.5
Norfolk, Va.	14.5	3	17.5	19.5	13.5
Richmond, Va.	14.5	3	17.5	19.5	13.5
Roanoke, Va.	14.5	3	17.5	19.5	13.5
Petersburg, Va.	14.5	3	17.5	*	13.5
Charleston, W.Va.	14	2	16	18	13.5
Clarksburg, W.Va.	14	2	16	18	13.5
Keyser, W.Va.	13	2	15	*	13.5
Parkersburg, W.Va.	14	2	16	18	13.5
Wheeling, W.Va.	14	2	16	18	13.5
Williamson, W.Va.	14	2	16	*	13.5
Charlotte, N.C.	12	3	15	17	13.5
Hickory, N.C.	12	3	15	*	13.5
High Point, N.C.	12	3	15	*	13.5
Mt. Airy, N.C.	12	3	15	*	13.5
Salisbury, N.C.	12	3	15	*	13.5
Charleston, S.C.	12.5	3	15.5	17.5	14
Columbia, S.C.	12.5	3	15.5	17.5	14

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK TERRITORY

*New York City	14	0	14	17	13
Albany, N. Y.	14	0	14	16	13
Buffalo, N. Y.	14	0	14	17	13
Rochester, N. Y.	14	0	14	18	13
Syracuse, N. Y.	14	0	14	16	12
Boston, Mass.	13	0	13	15.5	12
Augusta, Me.	13	1	14	16.5	13
Manchester, N.H.	13	2	15	17.5	13
Burlington, Vt.	13	1	14	16.5	13

*In steel barrels.

ATLANTIC REFINING TERRITORY

Pittsburgh, Pa.	14	0	14	19	14
Philadelphia, Pa.	14	0	14	19	14
Allentown, Pa.	14	0	14	19	14
Erie, Pa.	14	0	14	19	14
Scranton, Pa.	14	0	14	19	14
Altoona, Pa.	14	0	14	19	14
Dover, Del.	14	2	16	19	14
Wilmington, Del.	14	2	16	19	14
Providence, R. I.	13	0	13	16	13
Springfield, Mass.	13	0	13	17	13
Worcester, Mass.	13	0	13	17	13
Hartford, Conn.	13	1	14	17	13
New Haven, Conn.	13	1	14	17	13
Boston, Mass.	13	0	13	17	13

*Contains 2-cent tax collected by retail dealer and paid by him directly to state.

S. O. OHIO TERRITORY

All Ohio points	15	0	15	17	14

S. O. KENTUCKY TERRITORY

Lexington, Ky.	13	3	16	19	14
Louisville, Ky.	12	3	15	17	12
Covington, Ky.	12	3	15	18	14
Clarksdale, Miss.	12	3	15	18	12
Jackson, Miss.	12	3	15	18	10
Natchez, Miss.	11.5	3	14.5	17.5	11.5
Vicksburg, Miss.	11.5	3	14.5	17.3	11.5
Birmingham, Ala.	13	2	15	18	14.5
Mobile, Ala.	12	2	14	17	12.5
Montgomery, Ala*	14	2	16	19	15.5
Atlanta, Ga.	14	3	17	20	13
Augusta, Ga.	14	3	17	20	13.5
Macon, Ga.	14	3	17	20	14.5
Savannah, Ga.	11	3	14	17	13
Jacksonville, Fla.	12	3	15	18	13
Miami, Fla.	14	3	17	20	14.5
Tampa, Fla.	12	3	15	18	13
Pensacola, Fla.	12	3	15	18	13.5

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

S. O. CALIFORNIA TERRITORY

Phoenix, Ariz.	20	3	23	26	21.5
Los Angeles, Cal.	14	2	16	19	15.5
Fresno, Cal.	15.5	2	17.5	20.5	17.5
San Francisco, Cal.	15	2	17	20	15.5
Reno, Nev.	18.5	2	20.5	23.5	19
Portland, Ore.	16	3	19	22	16.5
Seattle, Wash.	16	2	18	21	16.5
Spokane, Wash.	20	2	22	25	20.5
Tacoma, Wash.	16	2	18	21	16.5

S. O. LOUISIANA TERRITORY

	Gasoline			Oil	
	T.W.	Tax	Total	S.S.	T.W.
Camden, Ark.	13	4	17	19	13
Little Rock, Ark.	13	4	17	19	13
West Helena, Ark.	13	4	17	19	13
Alexandria, La.	12.5	2	14.5	16.5	13
Baton Rouge, La.	11	2	13	15	11.5
Lake Charles, La.	12.5	2	14.5	16.5	13
New Orleans, La.	11.5	2	13.5	15.5	9
Shreveport, La.	12.5	2	14.5	16.5	13
Bristol, Tenn.	15	2	17	19	13.5
Chattanooga, Tenn.	13	2	15	17	14.5
Knoxville, Tenn.	14.5	2	16.5	18.5	15
Nashville, Tenn.	13.5	2	15.5	17.5	13.5
Memphis, Tenn.	12	2	14	16	14

MAGNOLIA PETROLEUM TERRITORY

Muskogee, Okla.	9.5	2½	12	16	11
Oklahoma City	9.5	2½	12	15	10
Tulsa, Okla.	9.5	2½	12	15	10
Fort Smith, Ark.	11	4	15	18	12
Little Rock, Ark.	13	4	17	19	13
Texarkana, Ark.	12	4	16	19	13
Dallas, Tex.	11	1	12	16	10
El Paso, Tex.	11	1	12	14	12
Fort Worth, Tex.	9	1	10	12	11
Houston, Tex.	13	1	14	18	12
San Antonio, Tex.	12	1	13	15	10

S. O. INDIANA TERRITORY

Chicago, Ill.	†14	0	†14	16	11
Decatur, Ill.	13.2	0	13.2	15.2	11.5
E. St. Louis, Ill.	12.1	0	12.1	14.35	10.6
Joliet, Ill.	13.4	0	13.4	15.4	11.7
Peoria, Ill.	13.2	0	13.2	15.2	11.5
Quincy, Ill.	13.2	0	13.2	15.2	11.3
Indianapolis, Ind.	13.2	2	15.2	17.2	11.7
Evansville, Ind.	13	2	15	17	11.5
South Bend, Ind.	13.4	2	15.4	17.4	11.9
Detroit, Mich.	13.8	0	13.8	15.8	12.2
Grand Rapids, Mich.	13.7	0	13.7	15.7	12.1
Saginaw, Mich.	13.9	0	13.9	15.9	12.3
Madison, Wis.	13.3	0	13.3	15.3	11.5
Milwaukee, Wis.	13.1	0	13.1	15.1	11.3
La Crosse, Wis.	14.2	0	14.2	16.2	12.4
Minneapolis, Minn.	14.2	0	14.2	16.2	12.6
Duluth, Minn.	14.5	0	14.5	16.5	12.6
Mankato, Minn.	14.1	0	14.1	16.1	12.4
Des Moines, Iowa	13.5	0	13.5	15.5	11.9
Davenport, Iowa	13.5	0	13.5	15.5	11.9
Sioux City, Iowa	13.1	0	13.1	15.1	11.5
Mason City, Ia.	13.5	0	13.5	15.5	11.9
St. Louis, Mo.	12.1	½	12.6	14.9	11
Kansas City, Mo.	12.9	1	13.9	15.9	10.8
St. Joseph, Mo.	12.5	½	13	15	10.9
Fargo, N. D.	15.9	1	16.9	18.9	14.6
Grand Forks, N. D.	16.2	1	17.2	19.2	14.9
Minot, N. D.	15.9	1	16.9	18.9	14.6
Pierre, S. D.	15	2	17.0	19.0	13.1
Huron, S. D.	15	2	17.0	19.0	13.1
Wichita, Kans.	12.8	1	12.8	14.8	9.8
Bartlesville, Okla.	11.9	2½	14.4	16.4	9.9

†Dumps of 100 or more gallons at 13c per gallon.

S. O. NEBRASKA TERRITORY

Crawford, Neb.	14	0	14	*	12.25
Omaha, Neb.	11	0	11	13	11.5
McCook	14.75	0	14.75	16.75	13
Norfolk	13.75	0	13.75	15.75	12
North Platte	14.75	0	14.75	16.75	12.75
Scotts Bluff	14.25	0	14.25	16.25	12.25

*Standard has no service station here.

CONTINENTAL OIL TERRITORY

Denver, Colo.	14	2	16	18	13.5
Glenwood Sp'gs. Colo.	18	2	20	*	17.5
Pueblo, Colo.	14	2	16	18	13.5
Basin, Wyo.	16	1	17	*	14
Casper, Wyo.	14	1	15	17	12
Cheyenne, Wyo.	15.5	1	16.5	18.5	13.5
Cody, Wyo.	17	1	18	*	15
Lander, Wyo.	16	1	17	*	14
Sheridan, Wyo.	18	1	19	21	16
Billings, Mont.	16.5	2	18.5	20.5	14.5
Butte, Mont.	18	2	20	22	15
Great Falls, Mont.	18	2	20	22	16
Helena, Mont.	18	2	20	22	16
Miles City, Mont.	17.5	2	19.5	21.5	15.5
Missoula, Mont.	19	2	21	23	16
Ogden, Utah	17.5	2½	20	22	17
Salt Lake City, Utah	17.5	2½	20	22	17
Boise, Ida.	20.5	2	22.5	24.5	19
Idaho Falls, Ida.	20	2	22	24	18.5
Albuquerque, N.M.	18	1	19	21	15.5

*Continental has no service stations at these points.

Week's Price Changes
Tank Wagon Market

Gasoline Reductions

Standard of New Jersey.—T.w. and s.s., 1 cent through territory, Sept. 30. On Oct. 1, Cumberland, Md. t.w. cut 2 cents, s.s. 3 cents and North and South Carolinas t.w. cut 3 cents, s.s. 4 cents, except Columbia, S. C. s.s. cut 3 cents. On Oct. 2, Keyser, W. Va., t.w. cut 2 cents; Baltimore t.w. cut 2, cents, s.s. 3 cents, and Annapolis t.w. 2 cents; Washington t.w., s.s. 1 cent. On Oct. 3, t.w. in Virginia and West Virginia cut 1 cent, s.s. from 1 to 2 cents, the 2 cent cut being made at Charleston, Wheeling, W. V., and Richmond, Va.

* * *

Standard of New York—T.w. and s.s. 1 cent, through territory including New England, Sept. 30. T.w. and s.s. 2 cents through New York, 3 cents New England, Oct. 1.

* * *

Atlantic Refining.—T.w. and s.s. 3 cents through territory, Oct. 1.

* * *

Standard of Kentucky—T.w. and s.s. 1 cent at Louisville, Lexington, Oct. 1; Atlanta t.w. 2 cents, s.s. 3 cents; other Georgia points, Alabama and Florida t.w., except Pensacola, cut 4 cents, s.s. 3 cents, establishing 3 cents differential; Pensacola t.w. is 15 cents, s.s. 18 cents; Mississippi t.w. and s.s. cut 3 cents.

* * *

Standard of Louisiana.—T.w. and s.s. 2 cents, Arkansas, t.w. 1 cent, s.s. 2 cents through Louisiana and Tennessee, Oct. 1.

* * *

Magnolia Petroleum—T.w. 2 cents, s.s. 3 cents at Little Rock, to 17 and 19 cents respectively, Oct 1.

* * *

Continental Oil—T.w. and s.s. 1 cent, Albuquerque, N. M., Sept. 30.

Correction—Tank wagon price of gasoline at Chicago for dumps of 100 or more gallons has been 13 cents since Standard of Indiana made its last price reduction. Note to that effect was erroneously omitted in recent issues. —Editor.

STORM LAKE, IA., Oct. 2.—E. P. Mansfield, formerly in the grocery business at Audubon, Ia., has moved here to enter the oil business. He is building a service station of pressed brick, concrete and colored mortar. He will handle Cities Service gasoline and oil and Mobiloils, acording to William H. Boust.

GREENBUSH, MINN., Oct 2.—Peoples Oil Co., Inc., just completed service station. S. A. Mattson, manager of the station and garage, reports that business is better than ever and believes that service and quality are real drawing cards.

Complete Export Markets

New York **Gulf Coast** **California**

Small Sales Bring Volume Of Export Business Up To Good Proportions

By Special Correspondent

NEW YORK, Oct. 6

EXPORT interest was keener last week, and while no really large sales were noted numerous small ones were uncovered and the aggregate turnover was much greater than during the preceding week. U. S. Motor gasoline was cheaper, reflecting the break in the tank wagon market.

Leading refiners were offering motor freely at 9 cents a gallon at New York harbor refineries, although insisting 12¼ cents was the posted price. There were two cargo inquiries in the market. One was from a large London concern and the other from a French house, but buyers' ideas were out of line with those of refiners. A fair consignment business tends to relieve conditions.

There has been a fairly good movement in cased gasoline. Much of the buying is being done by South American buyers although there has been a fair demand from the west coast of Africa. There have been a few good sized inquiries from New Zealand but no notable business developed.

Delivered in tank cars to the local trade, Motor is held at 10¾ cents.

Kerosene Demand Improved

Demand for kerosene is a little better. Big buyers with British connections appear more inclined to purchase ahead. Water white is well maintained at 7½ cents a gallon, in bulk at New York harbor refineries, while in tank cars delivered to the trade, the asking price is 8½ cents a gallon. A rumor of a cargo sale to a French concern appeared to be without foundation. Cased kerosene is moving to southern Europe in a larger way but, in the main, orders although numerous are confined to small quantities.

Stocks of kerosene are moderate, and most refiners feel confident demand will be much better before long. Consequently they are offering goods only conservatively. There was little competition here last week.

Gas Oil Looking Up

The movement in gas oil has looked up a little of late and sellers are asking 5 cents for dark 26-28 at local refineries. Stocks on hand are moderate but foreign buyers are inquiring more actively and the outlook is bright. For 36-40 at local refineries, the asking price is still held at 5¼ cents a gallon but not a great deal of new business has gone through at this figure.

Bunker Oil Is Steady

Bunker oil was steady at $1.75 per barrel at local refineries. The improvement in heavy Smackover crude has bettered sentiment considerably. There is no more talk of an impending cut. Export inquiries have been fairly numerous but no actual transactions were disclosed last week. Diesel oil is in better demand at $2 a barrel f. o. b. New York harbor refinery. The movement in this oil is mainly against standing contracts.

Demand for lubricating oil has been steady. Orders have averaged around 500 barrels the past few days, and small refiners are getting their share of the business. Pennsylvania 600 steam refined in barrels New York is well maintained at 27 to 28 cents a gallon. Western 600 steam refined in barrels New York was offered more freely at from 17 to 17½ cents a gallon. Demand for this oil was less active. Spindle oils were steady at unchanged prices.

Waxes ¼ Cent Cheaper

Waxes were about ¼ cent lower but nevertheless the refining interests were firm at these prices and no further concessions are looked for soon. Big buyers appear more inclined to purchase ahead. Demand from Germany, Italy and England has been a little more restricted but there is a heavy movement against old contracts. Interest still centered on white crude scale wax.

New York Export Market

(Actual Sales Prices)

The following prices are quoted by eastern seaboard independent refineries on products which are manufactured from Mexican crude transported from Tampico to the refinery by tanker and from California crude.

	Oct. 6	Sept. 29
U. S. Motor Gasoline, Tank Cars Delivered	10¾	–11¼
U. S. Motor Gasoline, Tank Cars Bayonne	9	10
Kerosene, 45-150 W W Tank, Cars Del'd	.08½	.08¼
Grade C Bunker, f.o.b. N.Y.	1.75	1.75
Diesel Oil f.o.b. Refinery	2.00	2.00
Gas Oil, 36-40, Bulk, refinery.	05¼	05¼

LUBRICATING OILS

(Actual Export Sales Prices)

CYLINDER STOCKS	Oct. 6	Sept. 29
Penna. Filtered D 600 bbls.	36 –37	34 –35
Penna. Filtered E 600 bbls.	–33	32 –34
Unfiltered 600 s.r.bbls.	27 –28	27 –28
Unfiltered 650 s. r. bbls.	–35	30 –31
600 flash s. r. bbls.	–37	–34
Western 600 s. r. bbls.	17 –18	16½–17½
Bloomless 30-31 grav. bbls.	21	–21
RED PARAFFIN (bbls.)		
300 vis. at 100°F.	23½–24	24 –25
250 vis. at 100°F.	22	22
175 vis. at 100°F.	–23	21 –22
High Viscosity Paraffin	29	29
225 vis. pale 100 at 100°F.	15 –16	15 –16
SPINDLE (bbls.)		
200 vis. Pale at 100°F.	22	22
180 Pale.	21	21
150 Pale.	18	18
BLACK OIL (bbls.)		
25-30 c. t.	14 –15½	14 –15½
15 c. t.	15 –16½	15 –16½

WAXES

(Actual Export Sales Prices)

(F. A. S. Carload Lots)

WHITE CRUDE SCALE	Oct. 6	Sept. 29
122-124 A. m. p.	05½-05⅝	–05⅜
124-126 A. m. p.	–05⅝	–06
MATCH		
105-108 A. m. p.	06	06
111-115 A. m. p.	06⅛	06¼
FULLY REFINED		
118-122 A. m. p.	05⅞	06
123-125 A. m. p.	06⅛	06¼
125-127 A. m. p.	06⅛	06¼
128-130 A. m. p.	06¾	06½
130-132 A. m. p.	06½	06¾
133-135 A. m. p.	07¼	07¼
SEMI REFINED		
122-124 A. m. p.	05⅝	06¼
YELLOW CRUDE SCALE		
124-126 A. m. p.	05½	05¾

PETROLATUMS

(Actual Sales Prices)

Snow White	12 –12¼	12¼
Lily White	10	10
Cream Petroleum Jelly	07½	07¾
Veterinary	03¾	04
Light Amber	03¾	05¼
Dark Amber	05½	05¼
Dark Green	05½	05¼

(Cooperage Basis)

MEDICINAL OILS

(Actual Sales Prices)

Domestic 875-885 s.g.drums	1.15	1.15
Domestic 865-870 s.g.drums	90	90
Russian 885-890 s.g. 325-330 vis. drums	1.25	1.25

Tank Wagon Price Reductions Hurt Export Gasoline Trade; Heavy Oils Higher

By Special Correspondent

NEW ORLEANS, Oct. 6

THOROUGH canvass of the export market disclosed but two cargo sales last week. Continued weakness in crude oil coupled with the reduction in gasoline tank wagon prices in many states, were held responsible for the slump in foreign buying.

However, it was learned that two big European buyers have already chartered steamers, and according to well posted authorities will have to buy some time before the end of the week. There was a keen interest in kerosene and gas oil, but prices for the former were regarded as too high while the latter was very scarce.

Export inquiries for gasoline were more numerous than the previous week, but carried little weight, as most foreign buyers look for slashing and are content to sit back and await developments. Leading refiners were asking 8½ and 10½ cents a gallon for U. S. Motor and 64-66 respectively but on a firm bid these prices could probably have been shaded ¼ cent. One large buyer with British connections purchased 42,000 barrels of Motor and 64 gasoline and prime and water white kerosene for late October shipment. The gasoline sold at the prices mentioned before while the kerosene brought 5¾ cents and 6½ cents respectively.

Cased Gasoline Demand Better

Cased gasoline demand was better, but most of the orders uncovered were confined to from 10,000 to 15,000 cases. Big refiners were still asking $2.40 and $2 60 per case for Motor and 64-66 respectively. Chinese buyers are buying gasoline a little more freely but comparatively little interest was shown by the Japanese interests. There is a large movement to Australia on contracts but one big refiner has this business well in hand.

French buyers appeared to be much more keenly interested in gasoline but are not inclined to support the market in its weakened condition. The inquiry from Scandinavia and Germany has also been a little better the past few days.

Kerosene is usually very active at this time of the year, but no straight cargo sales have been uncovered in some time. Stocks abroad are by no means heavy, but nevertheless foreign distributors are inclined to buy hand-to-mouth until they feel that the market over will not go much lower. Prime white was variously quoted at 5¼, 5⅞ and 6 cents a gallon. Water white ranged from 6½ to 7 cents. The former price prevailed early in the week.

German buyers are showing a keener interest in kerosene but are not quite ready to buy. Scandinavian buyers are inquiring more actively and one report had it that a large Copenhagen buyer was in the market for 36,000 barrels of kerosene. There have been numerous inquiries for small lots of kerosene from Spain, but sales were few. Demand as a rule has been spasmodic. Italian buyers have also been feeling the market out but are purchasing virtually nothing. Cased kerosene is still in fairly good demand, however, and prices have not declined. Prime white is quoted at $1.60 a case and water white at $1.70.

Bunker Oil Higher

Bunker oil is higher. Leading refiners are asking around $1.48 per barrel f.o.b. New Orleans while one factor is reported to be quoting $1.45 at Baton Rouge against $1.35 a barrel a week ago. For cargoes refiners are demanding $1.45 per barrel, but no business was reported at this figure. The advance is attributed to the upturn in heavy Smackover crude. Demand for bunker oil was somewhat more active, and refiners are talking of further advances soon.

Light 26-28 gravity gas oil is very scarce, and most refiners are asking 4¾ cents a gallon, with little available at this figure. However one factor was offering dark 32 plus at 4½ cents a gallon. Dark 26-28 could have been had at around 4⅜ cents a gallon. A large Copenhagen buyer is still in the market for gas oil but no purchases of consequence were located last week. German and British buyers seem more inclined to purchase ahead. Stocks abroad are said to be small.

Cold Test Oils Higher

Movement of lubricating oils has looked up considerably. Demand for Texas zero cold test oils has improved and prices were about ½ cent higher for the week. A large part of last week's buying was credited to German interests. However, most of the purchases were for a few hundred barrels here and there, but the total turnover was large. A cargo of 35,000 barrels of assorted lubricants was sold by a large Independent for nearby shipment to the Continent.

Waxes were strong. Demand continues active and few refiners are willing to press sales at present prices. Many are well sold up for some time to come. German buyers are after white crude scale and match waxes. Scandinavian buyers are also after match waxes. British buyers are inquiring for crude scale and fully refined descriptions.

N. Y. Export Quotations

Furnished by big exporting oil companies. No actual sales. Record for statistical purposes only.

Illuminating Oils

	Oct. 6	Sept. 22
Bulk, gal., Bayonne	6.50	6.50
Barrels, gal., Bayonne, cargo	13.50	13.50
Cases, gal., Bayonne	16.90	16.90

Prices for water white oil (150 test) are 1 cent higher than those for standard white.

Gasoline-Naptha
(Cents per Gallon)

U. S. Motor, dead bulk	12.25	12 25
U. S. Motor, cases	26 40	26 40
Export Naptha bulk	13 25	13 25
63-66 deg. bulk	14.50	14.50
66-68 deg. bulk	16.00	16.00

Tide Water Oil Company
(f. o. b. Bayonne)

58-59 deg. bulk	12.75	12.75
58-59 deg. cases	26.40	26.40
Export grade, U. S. Motor Specifications bulk	12.25	12.25
63-65 deg. bulk	14.50	14.50
68-72 deg. bulk	17.00	17.00

	Bulk	Barrels	Cases
Standard white 110	6.50	13.50	16.90
Water white 150	7.50	14.50	17.90

The Texas Company

Gasoline, cases		26.40	26.40
Kerosene	**Bulk**	**Barrels**	**Cases**
Standard White	6.50	13.50	16.90
Prime White	7.00	14.00	16.40
Water White	7.50	14.50	17.90

Gulf Export Market

(Actual Sales Prices)

	Oct. 6	Sept. 22
Gasoline		
U. S. Motor, Bulk F.O.B.	-.08¼	-.08¼
64-66, Bulk F.O.B.	-.10¼	-.10½
U. S. Motor, Cases (Cargo Lots)	2.40	2.40
64-66, Cases (Cargo Lots)	2.60	2.60
KEROSENE		
Water White, bulk	.06½-.06¾	-06¾
Prime White, bulk	.05¾	-05¾
Water White, cases (Cargo Lots)	1.70	1.70
Prime White, cases (Cargo Lots)	1.60	1.60
GAS AND BUNKER OILS		
26-28, gravity, bulk	04¼-04½	04¼
32 plus, bulk	-04½	04¼
Grade C, Bunker oil (F.O.B.)	1.35	1.35

Cargoes Clearing From N. Y.

Date	Destination	Product	Quantity
Sept. 25	Gothenburg	white oil	1,930,501 gals.
Sept. 25	Gothenburg	naptha	1,139,829 gals.
Sept. 10	Townsville, Aus.	naptha	111,599 cases
Sept. 10	New Calendonia	Kerosene	8,500 cases
Sept. 10	New Calendonia	naptha	2,050 cases
Sept. 16	Algoa Bay(Africa)	naptha	6,000 cases
Sept. 16	E.London(Africa)	naptha	3,000 cases
Sept. 16	E.London(Africa)	kerosene	598 cases
Sept. 16	Delagoa Bay (Africa)	kerosene	4,500 cases
Sept. 16	Cape Town	naptha	6,200 cases
Sept. 16	Cape Town	kerosene	1,279 cases

British Importations

Consignee	Imperial Gallons	Product	Port of Origin
At London—			
Anglo Amer.	1,224,170	kerosene	B. Rouge
Anglo Amer.	705,690	fuel oil	Sabine
Shell	1,422,704	benzine	S. Francisco
Nat'l Benzole	2,847,129	gasoline	S. Pedro
Anglo Mex.	212,460	fuel oil	Tampico
Anglo Mex.	750,000	Kerosene	Tampico
At Liverpool—			
Shell	236,450	fuel oil	Tuxpan
At Hull—			
Anglo Amer.	1,236,470	gasoline	B. Rouge
Anglo Amer.	1,427,780	kerosene	B. Rouge
Anglo Mex.	766,800	kerosene	Tampico
Anglo Mex.	510,000	gas oil	N. Orleans
Shell	777,777	gasoline	S. Pedro
At Bristol—			
Shell	1,182,222	gasoline	S. Pedro
At Dartmouth—			
Anglo Amer.	1,042,430	fuel oil	P. Arthur
At Swansea—			
Nat'l Oil Ref.	2,532,700	crude	Abadan
Nat'l Oil Ref.	2,666,000	crude	Abadan
Nat'l Oil Ref.	2,479,380	crude	Abadan
Nat'l Oil Ref.	2,082,500	crudedist	Abadan
Nat'l Oil Ref.	1,547,000	crude	Abadan
At Southampton—			
Anglo Mex.	1,062,000	fuel oil	Tampico

Crude Oil Prices All Fields

EASTERN FIELDS

	1924 Sept. 29	1923 High		1923 Low		1922 High		1922 Low	
Bradford-Allegany	$2.85	Feb.15	$4.25	Nov.13	$2.60	Jan.1	$4.00	July 19	$3.00
Other Pennsylvania	2.75	Feb.15	4.00	Nov.13	2.35	Jan.1	4.00	July 19	3.00
Cabell	1.45	Feb.15	2.76	Nov.13	1.20	Jan.1	2.61	July 19	1.86
Corning	1.50	Feb.15	2.30	Nov.14	1.25	Jan.1	2.40	July 20	1.75
Somerset	1.55	Feb.15	2.55	Nov.13	1.15	Jan.1	2.40	July 19	1.65
Somerset Light	1.70	Feb.15	2.80	Nov.13	1.30	Jan.1	2.65	July 19	1.90
Ragland	.90	Feb.15	1.10	July 10	.75	Jan.1	1.25	July 19	1.00

Somerset oil run prior to Oct. 1, 1923, takes price of 6 cents lower than above quotations.

CENTRAL STATES FIELDS

Wooster	$1.40	Feb.19	$2.50	Nov.9	$1.25	Jan.1	$2.70	Sept.21	$1.90
Lima	1.58	Feb.19	2.58	Nov.9	1.43	Jan.1	2.48	July 20	1.98
Indiana	1.38	Feb.19	2.38	Nov.9	1.23	Jan.1	2.28	July 20	1.78
Princeton	1.37	Feb.19	2.37	Nov.8	1.22	Jan.1	2.27	July 20	1.77
Lodi	1.40	Feb.19	2.50	Nov.9	1.25	Jan.1	2.70	July 20	1.90
Illinois	1.37	Feb.19	2.37	Nov.8	1.22	Jan.1	2.27	July 20	1.77
Waterloo, Ill.	.75	Feb.19	1.85	Nov.9	.70	Jan.1	1.75	July 20	1.25
Plymouth	.75	Feb.19	1.75	Nov.9	.60	Jan.1	1.65	July 20	1.15
Canadian Petrolia	1.98	Feb.19	2.98	Nov.9	1.83	Jan.1	2.88	July 20	2.38

MID-CONTINENT AND NORTH TEXAS FIELDS

Below 30	$ .75	Currie	$1.25
30-32.9	.90	Mexia	1.25
33-35.9	1.10	Powell	1.25
36 and above	1.25		

Humble's Prices

Ranger Field		Moran crude, Wichita and Archer Counties	
Below 30	$ .90	Below 30	$ .75
30-32.9	1.10	30-32.9	.90
33-35.9	1.25	33-35.9	1.10
36 and above	1.35	36 and above	1.25

Magnolia's Price Schedule
North and North-Central Texas, Okla., and Kan.

Below 30	$ .75	Corsicana, light*	$1.25
30-32.9	.90	Corsicana, heavy	.90
33 and above	1.25	Thrall	1.00
		*Including Powell and Mexia	

NORTH LOUISIANA-ARKANSAS FIELDS

Caddo, 38 degrees and above	$1.35	Bull Bayou, 38 and above	$1.15
do 35 to 37.9	1.25	do 35 to 37.9	1.00
do 32 to 34.9	1.15	do 32 to 34.9	.85
do below 32	1.00	DeSoto	1.20
Homer, 35 and above	1.10	Crichton	1.00
do 33 to 34.9	1.00	Bellevue	1.10
do 31 to 32.9	.90	Smackover, 25 and above	.95
do below 31	.75	Below 25 Be	.85
Haynesville, 33 and above	1.00	Stephens 26 and above	.90
do below 33	.90	do below 26	.70
El Dorado, 33 and above	1.10	Cotton Valley	.80
do below 33	1.00		

GULF COASTAL FIELDS

	1924 Sept. 29	1923 High		1923 Low		1922 High		1922 Low	
Spindletop	$1.25	Mar.15	$1.75	Aug.18	$1.00	Jan.1	$1.25	Dec.30	$1.25
Goose Creek "A"	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Goose Creek "B"	1.05	Mar.15	1.50	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Sour Lake	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Humble	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Batson	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Hull "A"	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Hull "B"	1.05	Mar.15	1.30	Jan.1	.80	Jan.1	1.25	Dec.30	1.25
West Columbia	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Edgerly	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Vinton	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Jennings	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Dayton	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Saratoga	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Orange "A"	1.25								
Orange "B"	1.05								
Pierce Junction "A"	1.25								
Pierce Junction "B"	1.05								

WYOMING FIELDS

Elk Basin	$1.20	Feb.17	$2.10	Nov.9	$ .95	Jan.1	$1.90	Aug.4	$1.20
Grass Creek	1.20	Feb.17	2.10	Nov.9	.95	Jan.1	1.90	Aug.4	1.20
Big Muddy	.75	Feb.17	1.65	Nov.9	.45	Jan.1	1.40	Aug.4	.70
Salt Creek	.85	Feb.17	1.65	Nov.9	.60	Jan.1	1.40	Aug.4	.70
Lance Creek	1.15	Feb.17	2.10	Nov.9	.80	Jan.1	1.90	Aug.4	.20
Rock Creek	.95	Feb.17	1.75	Nov.9	.60	Jan.1	1.50	Aug.4	.80
Osage	1.15	Feb.17	2.10	Nov.9	.80	Jan.1	1.90	Aug.4	1.20
Cat Creek, Mont	1.20	Feb.17	2.10	Nov.9	.95	Jan.1	1.90	Aug.4	1.20
Bunburst, Mont	.90	Feb.17	1.50	June 6	.70				

CALIFORNIA

14-19.9	$1.00	25-25.9	$1.10	30-30.9	$1.25
20-20.9	1.01	26-26.9	1.13	31-31.9	1.28
21-21.9	1.02	27-27.9	1.16	32-32.9	1.31
22-22.9	1.03	28-28.9	1.19	33-33.9	1.34
23-23.9	1.05	29-29.9	1.22	34-34.9	1.37
24-24.9	1.07			35 and above	1.40

California Gasoline Market Is Soft

LOS ANGELES, Oct. 4.—The casinghead gasoline market in and about Los Angeles has stiffened within the last few days and the market is firm at around 10 cents a gallon, refineries.

The improved casinghead market is viewed by many of the local refiners as beneficial to their gasoline trade. Cheap casinghead has, in a large measure, been responsible for the ease with which the bootlegger has been operating heretofore with his price-cutting competition.

Both the domestic and export gasoline markets are soft as regards the price structure. In fact it is a difficult thing to find among the numerous smaller refiners two men who will agree upon what the present domestic market price on gasoline is. Spot export cargoes have recently sold at 8¾ cents in some instances, while contract cargoes are still moving up to 1 cent higher. Spot orders in tank car lots at the refineries have moved recently at 8½ to 9½ cents.

During the last week California domestic fuel oil market underwent a reaction due to some of the larger oil companies ceasing to buy. If the action of the big companies in this regard is continued for any length of time, it will result in overstocking some of the smaller refiners with fuel oil which they formerly either sold direct to the big companies or marketed direct.

Due to the heavy output of gasoline by most of the smaller Los Angeles and Orange counties refiners, their fuel oil supply is necessarily large. Should they meet with continued difficulty in marketing the fuel they will be compelled either to cut their manufacture of gasoline and produce less fuel or to create new outlets for this product which would be very difficult to do.

Present indications point to a normally good fuel oil export market this year, and it may be that the action of the big companies in not buying fuel oil is merely in the nature of a temporary measure. One large fuel buyer said he expected his company would be back in the market within 30 days.

Pacific Export Market

(Cargo lots quotations at seaboard, San Francisco Bay and Los Angeles refinery points, f.o.b. docks.)

	Oct. 4	Sept. 17
Gasoline, U. S. Motor—54°—56°	09 – 10	09c– 10c
Gas Oil, 24°—30°B per bbl.	$1.65	$1.65
Diesel Oil, 27°B-plus per bbl.	$1.65	$1.65
Bunker Oil, 14°—18°B per bbl.	$1.40	$1.40
Fuel Oil, 14°—18°B per bbl.	$1.40	$1.40
Kerosene, W. W. 40°—42° B per gal., 125-150 flash test	05½c–06½c	05½c–06½c
Case Goods		
Gasoline, U. S. Motor	$2.50	$2.50
Kerosene, W. W. 40°—42° B per case, flash test 125–150	$1.55–$1.65	$1.55–$1.65

Hawkeye Oil Hands Checks To Those Who Ask Credit

WATERLOO, IA., Oct. 6.—Checks made payable to the Hawkeye Oil Co. which can be drawn on any bank, have been put out by that company for the purpose of reducing credit sales at service stations and to remind the farmer or any other consumer who has gasoline delivered to him while he happens to be away, to send in the amount of the bill. Every station agent is urged to have a supply of these blank checks on hand, so that when a customer drives in to have his tank filled and then asks for credit, saying he does not have a check book with him, the agent hands him the check which the customer can fill in. Taking care of the account immediately is the thing that reduces bad accounts and sales on credit, the company says.

The company has found that when gasoline or oil is delivered to a farmer or customer who is not at home at that particular time, and the agent wishes to leave the article, he merely leaves one of these checks with the article, and the customer upon noticing that the article has been delivered, will often pick up the check, fill it out and mail it to the agent. When a customer says that he does not have cash or check right at that time, but will pay later, all that is necessary for the agent to do is hand him one of the Hawkeye checks. This saves the trouble of going back and collecting for the delivery later.

Benzol Is Still Active; Prices Stronger

By Special Correspondent

NEW YORK, Oct. 6.—Following is a review of the markets for oils and supplies used in compounding and refining:

Animal Oils

Lard and neatsfoot oils were advanced 2 cents a gallon. Demand much better. Stocks rather light. Oleo oil less active. Buyers operating in a cautious way. Business in stearine spasmodic. Price easier. Little interest in degras.

Fish Oils

Conditions unchanged. Cod flat. Buyers holding off. Better inquiry for whale oil. Crude menhaden still 50 cents, tank cars, factory. Demand for herring oil light. Buyers sperm oil showing more interest.

Benzol

Demand still spirited and prices are stronger. Production gaining, but nevertheless higher prices are predicted in local circles.

Linseed Oil

Spot oil lower. Futures trifle higher. Demand less spirited. More interest in distant options. Jump in flaxseed responsible for upturn. Stocks on hand almost depleted. Little spot oil offered. Big consumers inquiring actively but curtailing purchases. Soya bean oil nominal at 12¼ cents, barrels.

Caustic Soda

Stronger. Foreign buyers more active. Steady contract movement. Spot demand much better.

Soda Ash

Good domestic and export demand for prompt and forward deliveries. Indications point toward steady prices until after November.

Bleaching Powder

Big consumers buying more actively and price appreciably firmer than previous week. Stocks moderate.

Sulfuric Acid

Market very firm. Demand for all positions good. Outlook more bullish.

Naval Stores

Turpentine easier. Buyers holding off. Rosins show advancing tendency. Active. Slightly higher. Rosin oils in better demand at unchanged prices. Tar and pitch marking time.

Refiners', Compounders' Supplies

Following are the average market prices for the week on materials used by refiners and Compounders f. o. b. shipping point as effective this date.

Benzol

	Oct. 6	Sept. 29
Pure Water White, Tanks.....gal.	24-25	24-25
90%.....Tanks.....gal.	-25	-25

Above are industrial grades of benzol; motor grades run 2c under to 2c over gasoline tank wagon prices at point of delivery.

Refiners' Supplies

Soda Ash light 58% bags cwt.	-$1.38	-$1.38
Silicate of Soda 60 deg.....Drums.....cwt.	-1.70	-1.70
Sal Soda wks.....cwt.	1.10-1.25	1.10-1.25
Caustic Soda 76% solid.cwt.	-3.10	-3.10
Chloride of Lime.....cwt. Works.....	1.90-2.10	1.90-2.10
Sulphuric Acid 60 deg. tank cars f. o. b. shipping point.....per ton	9.00-10.00	9.00-10.00

Compounders' Supplies (Open Market)

Vegetable Oils—		
Linseed carloads Spot...gal.	-1.00	-1 00
October.....	- .96	- .95
November.....	.94- .95	- .90
Dec.-April.....	- .92	.....
Tanks, spot.....	- .96	.96
Less carload Spot.....gal.	-1.04	1.03
Less than 5 Bbls. Spot.....	-1.07	-1.05
Boiled, tank Spot.....gal.	- .98	- .98
Boiled, carloads Spot....gal.	-1.04	1.04
*Soya Bean Spot, Tanks..lb.	- .11¼	Nominal
Animal Oils—		
English Degras.....lb.	-.04⅝	- .04¾
Domestic Degras, bbls. carloads....lb.	-.04¼	-.04¼
*Horse.....lb.	-.09	-.09
Oleic Acid—		
Dist.....lb.	-.09¼	-.09¼
Saponified.....lb.	-.09¼	-.09¼
Lard Oils—		
Prime Winter Strained.. 1 to 1⅝ ffa.40/45c.t.lb.	.19⅜	9.17¾
Extra Winter Strained.. 2 to 4⅝ ffa.40/45c.t.lb.	.17¾	15¾
Extra..... 4 to 5 ffa.40/45c.t.lb.	.16¾	.14¾
Extra No. 1..... 7 to 10 ffa.40/50c.t.lb.	.14¾	.12¾
No. 1.....15 to 18 ffa.40/45c.t.lb.	.14¼	.12¼
No. 2.....22 to 25 ffa.40/45c.t.lb.	.13¾	.11¾
Prime Edible Tallow under 1¾ ffa. 40/45c.t.N.Y.....lb.	-.09¾	-.10
Tallow acidless.....lb.	-.11⅝	-.11⅝
Lard Stearine.....lb.	-.17	-.17
Oleo Stearine.....lb.	-.11	-.11
Neatsfoot Oil—		
Pure.....bbls.-lb.	.17	.15
Extra.....do lb.	.14½	.12½
No. 1.....do lb.	.13¾	11¾
Cold pressed.....lb.	21⅝	.19⅝
Fish Oils—		
Menhaden Oil Light pressed.....gal.	-.65	-.65
White.....gal.	-.70	-.70
Yellow bleached.....gal.	-.68	-.68
*Herring tank cars coast.....gal.	-.40	-.40
Whale, extra winter bleached.....gal.	-.80	-.80
Seal.....gal.	Nominal	
Naval Stores—		
Turpentine, N.Y.....gal.	.88	.87
Turpentine†.....gal.	.82	.80¼
Rosin B. N. Y.....Bbl.	6.55	6.30
Rosin F. N. Y.....Bbl.	6.55	6.30
Rosin B†.....Bbl.	5.25	5.12½
Rosin F†.....Bbl.	5.25	5.12½
Rosin Oil 1st run.....gal.	.40	.40
Rosin Oil 2nd run.....gal.	.46	.46
Pine Tar—		
Kiln Burnt.....Bbl.	11.50	10 50
Retort.....Bbl.	11.50	10 50

†Savannah, Ga. market.
*Nominal

Red Gasoline Increases Clayton Co. Sales

DALLAS, TEX., Oct. 6.—A sales-campaign on gasoline colored red to distinguish it from the usual clear, colorless liquid, was recently put over by the Clayton Oil & Refining Co. of this city. An inexpensive red dye, considered harmless to the engine, was added to the gasoline for the purpose of enabling the buyer to immediately identify it by its color and to get him into the habit of patronizing the stations selling the gasoline trade-marked by its color.

A local advertising campaign was undertaken with several small-space "teasers" first being used in local newspapers. In these advertisements, such ideas were used as a cartoon of a bolshevik advancing with a sizzling bomb, captioned "The Reds take Dallas tomorrow"; a can of paint being poured on the business section, labeled "Dallas will be painted red tomorrow"; a small boy drinking a bottle of soda, designated "most important Red since red soda;" and a small boy with red hair, inscribed, "Red Ball free to every red-headed man or woman tomorrow."

On the following day in larger space, appeared this promise: "Free, five gallons of Clayco RED BALL gasoline to every red-headed car driver today."

On that day, about 4,000 gallons were given away, and sales increased on the following Saturday approximately the same amount. On Saturday, large space was used to list the stations at which Red Ball gasoline could be purchased, and full page advertisements were used on Sunday to point out, with illustrations, five points of superiority the gasoline possessed.

OIL STOCKS AND FINANCES

Pennok Stockholders To Get $8 Per Share In Re-Organization

NEW YORK, Oct. 6.—Liquidation of the present Pennok Oil Co. which has production in Kansas, Oklahoma and Texas, has been decided on by the directors and the proposition will be voted on by stockholders at a special meeting Oct. 15. A new company to be known at the Pennok Oil Corp., to be chartered in Delaware, will buy the physical assets of the present company.

In the reorganization of the Pennok, stockholders in the present company will receive one-third share in the new company for each share in the old, the same proportion, $5 per share in short term notes of the new corporation, and about $8 per share in cash. The statement of President J. L. Weeks concerning the scheme, follows:

"The directors have determined that the current operating position of the company's properties renders unnecessary the use of the present substantial cash reserve for development or expansion and recommends the following plan for the liquidation thereof among the stockholders, involving a liquidation of the present company and the continuance of its operations by a new corporation.

"The company has purchased, for $150,000 cash, 150,000 shares without par value (the entire authorized capital stock) of the Pennok Oil Corp., a Delaware corporation, and has declared a dividend of 33 1/3 cents a share, payable in stock of the new corporation on the basis of one share for each dollar of dividends on Oct. 10 to stock of record Oct. 3. Thus, for each share of the Pennok Oil Company, stockholders will receive on October 10 one-third of a share of stock of the new Pennok Oil Corp.

"Pennok Oil Co. proposes to sell Pennok Oil Corp. its operating and other properties, including wells, leases, drilling equipment, inventories and all other physical assets (but excluding approximately a net amount of $3,600,000 of cash and other current assets), for $2,250,000 face value of three-year 6 per cent gold notes of Pennok Oil Corporation. The interest on such notes will be payable semi-annually on June 1 and Dec. 1, and the notes will be callable upon 30 days' written notice any time prior to maturity at 101 plus accrued interest. A special meeting of stockholders to authorize the sale to the new company as above has been called for Oct. 15, 1924.

"Upon the consummation of such sale, the net assets of Pennok Oil Co. will consist only of cash and other current assets and the above-mentioned notes of Pennok Oil Corp., and it is proposed that the present company be dissolved and that such net assets be distributed pro rata among its stockholders. It is estimated that the amount payable on each share of stock of Pennok Oil Co. will be approximately $8 in cash and $5 face amount of notes of Pennok Oil Corp.

"It is the intention that Pennok Oil Corp. will continue the operation of the properties without interruption under the present management. With the substantial current production of oil, it is believed that $150,000 cash, together with the inventories taken over from the present company, will constitute ample working capital for the new corporation to continue operations under the present operating program.

"Upon completion of the steps outlined above, there will have been distributed to stockholders of Pennok Oil Co. for each share now owned in that company: (a) One-third of a share of stock of the new corporation (representing the same proportionate interest in the operating properties now represented by one share of the present company); (b) $5 in notes of the new corporation, and (c) approximately $8 in cash."

Cleveland Stock Market

October 3

	Par	Bid	Asked	1923 High	1923 Low
Canfield Oil Co.	$100	....	....	....	....
do pfd	100	....	100	x100	95
National Refining	25	35	36½	39	33¾
do pfd	100	126	130	x130	116
Paragon Refining	25	....	6½	6	5¼
do pfd	100	....	....	....	40
Fred G Clark Co.	10	2		4	2

x Ex. Dividend

Oil Dividends

Payable	Stock of Record		Amount
Nov. 1	Oct. 15	Atlantic Ref. pf. q.	$1.75
Nov. 15	Nov. 1	Beacon Oil pfd. q.	$1.87½
Nov. 1	Oct. 15	Eureka P.L. q.	$1
Nov. 1	Oct. 15	Salt Creek Cons.	20c
Nov. 1	Oct. 15	do extra	20c
Sep. 25	Sep. 10	Swan & Finch pf. ac.	4%
Nov. 1	Oct. 15	Ventura Cons. q.	50c
Dec. 20	Dec. 15	Woodley Pet. q.	50c

Financial Notes

Eureka Pipe Line Co.—Dividend payable Nov 1 will be $1 a share. Previous quarterly payments were $2. Company reports net profits of $84,692 a share for first eight months of 1924 after all charges, equivalent to $1.69 a share or at the rate of $2.54 a year on the $100 stock.

* * *

Woodley Petroleum Co.—Dividend for fourth quarter is 50 cents a share. Payment for previous quarter was 30 cents regular and 20 cents extra.

* * *

Swan & Finch.—Dividends of preferred stock due for quarters ended June 1 and Sept. 1, 1921, were paid Sept. 25 to stock of record Sept. 10. June 1, 1924, dividend rate on preferred stock was reduced from 8 to 7 per cent per year.

P. & R. Reports $1.56 Net Per Share

DENVER, Oct. 6.—Producers & Refiners Corp. and subsidiaries report for first half of 1924 net income of $1,260,815 after all charges, equivalent to $1.56 on the combined amount of common and preferred stock, par of both $50 per share. Preferred stock shares with common in dividends payments above 7 per cent.

Consolidated balance sheets as of June 30, 1924, and Dec. 31, 1923, compare:

	1924	1923
Property*	$52,120,775	$51,474,691
Invests. in oth. cos.	4,344,988	4,113,645
Deferred charges	1,151,603	1,352,917
Cash	480,089	186,227
Marketable securit.	135,000	190,862
Notes & accts. rec.	2,149,271	2,398,462
Oil inventories	1,977,651	1,021,140
Mat. and supplies	1,075,490	1,510,973
Prep'd int. and ins. rentals, etc.	.....	106,091
Cash adv. to ass. cos.	10,018,212	7,706,259
Total	$73,453,079	$70,061,272
Liabilities		
Common stock	$37,435,150	$37,395,927
Preferred stock	2,845,350	2,845,350
Minor int. in subs.	850,349	865,327
First mortgage b'ds	3,654,900	3,916,000
Pur. mon. & def. ob.	183,044	1,194,764
Notes payable	10,000,000	4,369,406
Accounts payable	642,989	2,531,742
Acc'd int. t'x's, etc.	188,658	104,033
Res. for fed. taxes	221,776	217,929
Surplus**	17,430,863	16,620,792
Total	$73,453,079	$70,061,272

*Less depreciation

**Including appreciation of developed leaseholds, subject to deduction for depletion.

Transactions In Oil Shares on New York Stock Exchange

1923 High	1923 Low	1924 High	1924 Low	Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Oct. 4 Sales	First	High	Low	Last	Ch'ge
.....	.....	43	25	(sh) 200,000	N.P.	American Republics	.....	.....	.....	.....	.....	.....	.....	.....
29½	24⅞	34⅝	27½	$ 56,000,000	$25	Associated Oil	37½cQ	July 25, 24	5,600	28¾	28¾	27¾	27⅞	— ⅜
160	98¾	140½	78½	50,000,000	100	Atlantic Refining	.....	June 16, 24	7,600	88	88	84½	84¾	—3¼
120	115	118	109¼	20,000,000	100	do pfd	$1¾Q	Aug. 1, 24	200	112½	112½	112	112	0
35	9⅞	21⅜	14	14,000,000	25	Barnsdall Corp. A	.....	Apr. 30, 21	3,500	18⅜	19	17½	18	— ½
22	6	16¼	10	3,713,275	25	do B	.....	Apr. 30, 21	300	13	13¼	12½	13¼	+ ¼
9½	1¼	5	1⅜	(sh) 150,000	N.P.	Caddo Central O. & R.	.....	.....	300	1½	1½	1½	1½	0
29¼	17⅛	29¼	19½	$ 17,377,000	$25	California Petroleum	43¾cQ	Sept. 2, 24	7,100	21⅞	22⅝	21½	21¾	— ¼
110½	90½	107	92½	11,955,100	100	do pfd	$1¾Q	Oct. 1, 24	400	96	96	95¼	95¼	—1
62¼	22¾	40¼	22⅝	(sh) 1,357,800	N.P.	Cosden & Co	.....	Aug. 1, 23	43,000	23¾	24⅜	†22⅝	23⅜	— ⅝
90¾	83¼	95	83½	$ 6,998,000	$100	do pfd	$1¾Q	Sept. 1, 24	200	83½	84½	83½	84	0
54	25	47¼	31¾	19,830,000	100	General Asphalt Co	.....	.....	11,600	42	43	40¾	41⅜	— ⅝
83	60	84	71½	7,416,000	100	do pfd	$1¼Q	Sept. 2, 24	700	83¾	83¾	83	83	—1
.....	.....	45	38⅜	28,402,950	25	General Petroleum	50cQ	Sept. 15, 24	9,500	41	41⅝	40	40½	— ¾
78	40¾	82½	61	25,000,000	100	Houston Oil Co	.....	.....	8,700	73	75⅝	70	70½	—2
11¾	3⅜	9¼	5¾	(sh) 450,000	N.P.	Independent Oil & Gas	25cQ	Sept. 30, 24	2,700	6	6⅜†	5¾	6½	+ ⅜
19	1	2⅞	¼	$ 5,000,000	$25	Indiahoma Refining Co	.....	July 1, 21	4,200	¼	¼	¼	¼	0
8½	3½	7½	3¾	7,830,450	10	Indian Refining Co	.....	Dec. 15, 20	2,500	5¼	6¼	5	6¼	+ ⅞
49½	49½	74	60	2,296,400	100	do pfd	.....	Dec. 15, 21	.....	.....	.....	.....	.....	.....
19¼	7⅛	16⅞	10½	1,094,744	N.P.	Invincible Oil Corp	.....	.....	5,500	13½	13⅜	12¾	12¾	— ¼
3½	¼	1	¼	$ 1,755,460	$10	Kansas & Gulf Corp	.....	.....	300	¼	¼	¼	¼	— ⅛
83½	16	37½	25⅜	(sh) 262,250	N.P.	Maracaibo Oil	.....	.....	2,400	27¾	27¾	25½	26½	—1½
59⅝	17½	42	29	(sh) 1,549,190	N.P.	Marland Oil Co	.....	July 1, 23	58,900	34½	35¾	33¾	33⅝	—1⅝
193	182	.....	.....	$ 45,942,800	$100	Mexican Petroleum Co	$3Q	July 21, 24	.....	.....	.....	.....	.....	.....
105¼	100¼	.....	.....	12,000,000	100	do pfd	$2Q	July 21, 24	.....	.....	.....	.....	.....	.....
23¾	5¾	25¾	14⅛	(sh) 444,939	N.P.	Mexican Seaboard Oil	50cQ	Aug. 15, 24	27,700	23⅞	23⅞	21⅞	23	— ¼
23½	6	22¾	12⅜	(sh) 358,900	N.P.	do V. T. C	50cQ	Aug. 15, 24	.....	.....	.....	.....	.....	.....
12¾	3½	6⅞	1	$ 29,799,450	$10	Middle States Oil Corp	.....	July 1, 23	5,600	1¼	1⅜	1¼	1¼	0
67	31	39¾	31⅛	$ 39,626,000	25	Ohio Fuel Supply Co	62½cQ	July 15, 24	1,600	36	37	35⅜	37	+1⅛
52½	31¼	58¾	45	(sh) 3,500,000	N.P.	Pacific Oil Co	$1S.A.	July 21, 24	13,300	47⅜	47⅞	46⅞	47⅛	— ⅜
93½	53	61¼	42⅛	$ 48,292,450	$50	Pan American P. & T	$1Q	July 21, 24	11,700	52½	54½	51⅜	53½	+ ½
86	50½	59½	41¼	81,935,350	50	do Class B	$1Q	July 21, 24	51,300	52½	54¼	51	52⅞	+ ¼
6¼	1¼	3½	1⅝	(sh) 198,770	N.P.	Panhandle P. & R.	.....	.....	.....	.....	.....	.....	.....	.....
68	27½	40¼	29¾	$ 8,855,500	$100	do pfd	.....	July 2, 23	.....	.....	.....	.....	.....	.....
69⅝	19¾	42¾	28½	(sh) 1,479,702	N.P.	Phillips Petroleum	50cQ	Oct. 2, 24	39,400	32⅛	32¼	†28½	30¼	—1¾
6	1⅜	4½	1½	$ 29,622,925	$25	Pierce Oil Corp	.....	.....	1,500	1⅝	1¾	1⅜	1¾	0
44½	16	39¾	20	15,000,000	100	do pfd	.....	Feb. 1, 22	600	26¾	26½	26	26	—1¾
58½	17	43½	22¾	11,467,850	50	Producers & Refiners	.....	Sept. 15, 23	4,900	25	26¼	25	25	—2
49¾	36	47½	22	2,845,350	50	do pfd	87½cQ	May 5, 24	200	45	45	44½	44½	— ½
32	16¼	26¾	20	71,316,575	25	Pure Oil Co	37½cQ	Sept. 1, 24	7,000	22⅞	23½	22¾	22½	— ⅜
100	82½	98½	92	15,000,000	100	do 8% pfd	$2Q	Oct. 1, 24	400	97½	97½	97	97	— ½
53⅛	40½	59½	40¾	(sh) 725,959	15.40	Royal Dutch, N.Y. shares	$3.18⅓	Aug. 12, 24	9,100	41¾	41¾	40⅞	41⅜	0
41¾	29⅛	41½	33	(sh) 153,293	£2	Shell Transport & T	$1.07½	July 23, 24	400	33¾	33¾	33¾	33¾	— ¼
19¾	12⅝	20½	15¾	(sh)10,000,000	N.P.	Shell Union Oil Corp	25cQ	Sept. 30, 24	21,000	16½	17⅛	16¾	16⅞	+ ⅛
95	89½	96¾	91½	$ 20,000,000	$100	do pfd	$1½Q	Aug. 15, 24	500	95½	95½	95½	95½	0
16	6½	15	10¾	7,204,710	10	Simms Petroleum Co	.....	.....	12,500	14¼	14⅜	13⅞	14⅛	— ⅜
39½	16	27¾	15	(sh) 4,480,957	N.P.	Sinclair Consolidated	.....	May 31, 24	51,500	16¼	16⅜	15⅜	15⅜	—1
99¼	80¼	88½	77	$ 18,914,900	$100	do pfd	$2Q	Aug. 15, 24	800	81¾	81¼	80	80¼	—1⅜
35	12¼	29	17¾	20,579,090	25	Skelly Oil Co	.....	.....	4,500	17⅞	18⅜	17⅜	18	0
64½	47⅛	68½	55½	234,107,825	25	S. O. California	50cQ	Sept. 15, 24	8,500	57¾	57¾	56½	56½	— ⅜
44⅜	30⅞	42¼	33	505,201,775	25	S. O. New Jersey	25cQ	Sept. 15, 24	14,500	35⅝	36	35¼	35⅜	+ ⅜
118⅝	114¼	119½	115⅞	199,972,900	100	do pfd	$1¾Q	Sept. 15, 24	1,000	117⅜	118	117¾	118	+1⅝
6¾	2	8¼	2¾	(sh) 1,087,228	N.P.	Superior Oil Corp	.....	Dec. 20, 20	18,500	4¾	5¼	4¾	5¼	+ ⅜
82⅞	34⅜	45⅜	37¾	$164,450,000	$25	The Texas Co	75cQ	Sept. 30, 24	16,500	40	40½	39⅝	40¼	+ ¼
24¼	5½	15¼	8¼	8,380,340	10	Texas Pacific Coal & Oil	.....	June 30, 23	10,100	8¾	9¼	8¾	9	+ ⅛
144	94	151	118¼	50,004,000	100	Tide Water Oil Co	$1Q	Sept. 30, 24	300	120	120	120	120	0
14½	1¼	6¼	3¼	(sh) 2,957,529	N.P.	Transcontinental Oil Co	.....	.....	19,500	4¼	4¼	4	4⅛	— ⅜
99¼	81	127¾	94	$ 18,020,000	$100	Union Tank Car Co	$1¼W	Sept. 2, 24	2,500	126½	*127¾	120¼	120¼	—10
114	100	116¾	106¼	12,000,000	100	do pfd	$1¼Q	Sept. 2, 24	300	113½	113½	111	111	—2½
30½	20	29¾	23½	(sh) 460,000	N.P.	White Eagle Oil & Ref	50cQ	July 20, 24	1,500	24¼	24¼	23⅝	24	0

*New High †New Low xEx-Dividend Total Sales 533,900

Standard Oil Stock Traded In New York Curb Market

1923 High	1923 Low	1924 High	1924 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Oct. 3 Sales	First	High	Low	Last	Ch'ge
19¾	13½	18	14⅜	£3,000,000	£1	Anglo American	55cS.A.	May 15, 24	1,000	14⅞	15	14¾	15	.....
7¾	2½	4¾	2¾	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....	.....	.....	.....	.....	.....	.....
180	108	265	155	$ 1,000,000	$100	Borne-Scrymser	$48.A.	Apr. 15, 24	.....	.....	.....	.....	.....	.....
94½	69	85¾	51	10,000,000	50	Buckeye Pipe Line	$1Q	Sept. 15, 24	440	57	61	56	56	—8
.....	.....	52	48¼	3,000,000	25	Chesebrough Mfg. Co	62½cQ	Sept. 30, 24	300	49¼	49¼	48¾	48¾	— ¼
118	110	115	112½	1,000,000	100	do pfd	$1½Q	Sept. 30, 24	.....	.....	.....	.....	.....	.....
50	32¼	54¾	39¾	10,000,000	25	Continental Oil	50cQ	Sept. 15, 24	.....	.....	.....	.....	.....	.....
47⅞	15	20	11¾	1,500,000	25	Crescent Pipe Line	.....	Sept. 15, 23	.....	.....	.....	.....	.....	.....
168	85	149	110½	3,000,000	100	Cumberland Pipe Line	$3Q	Sept. 15, 24	40	138½	138½	136	136	—1
117	87	105	89	5,000,000	100	Eureka Pipe Line	$2Q	Aug. 1, 24	250	91	91	74	77	—13½
78	55	69¾	52	16,000,000	100	Galena Signal Oil	$1Q	Sept. 30, 24	140	54	55	52¾	54	+1
105	104	103¾	100¾	4,000,000	100	do new pfd	$2Q	Sept. 30, 24	.....	.....	.....	.....	.....	.....
116	108	116	103½	2,000,000	100	do old pfd	$2Q	Sept. 30, 24	.....	.....	.....	.....	.....	.....
41¼	28	43¾	30	48,750,000	25	Humble Oil & Ref	30cQ	Sept. 1, 24	800	36	36¼	36	36¼	+ ⅜
171	115	161	120	20,000,000	100	Illinois Pipe Line	$6 S.A.	June 30, 24	160	126	127	122	122	—3½
123	92	119	98½	39,222,750	25	Imperial Oil coupons	75cQ	Sept. 2, 24	1,705	103½	104½	101¼	101½	—1
103	78	100	66	5,000,000	50	Indiana Pipe Line	$2Q	Aug. 15, 24	280	72	74	70½	70½	—1½
24¾	13¼	22¼	16¾	(sh) 7,118,138	N.P.	International Petroleum	25cQ	June 30, 24	15,800	19½	19¾	19	19¼	— ¼
168	123	162	122	$188,000,000	100	Magnolia Petroleum	$1Q	Oct. 5, 24	570	130½	131	125	131	+1
29	19½	25¼	20¾	6,362,500	12½	National Transit	25cQ	Sept. 15, 24	1,000	21¾	22½	21¾	22	+ ¾
138	70	97	54½	5,000,000	100	New York Transit	50cQ	July 15, 24	20	61	61	61	61	.....
109½	90	107½	75	4,000,000	100	Northern Pipe Line	$3S.A.	July 1, 24	30	76	76	†75	75	—3
85¼	48¾	79½	55	60,000,000	25	Ohio Oil Co	50cQ	Sept. 30, 24	1,300	60	61¼	60	61	+ ½
45¾	10½	43	27	10,000,000	25	Penn.-Mex. Fuel	.....	.....	200	33	33	32½	32½	+ ½
700	152	269	194½	60,000,000	100	Prairie Oil & Gas	$2Q	July 31, 24	1,840	207½	208	206½	207	.....
335	93	111	100	81,000,000	100	Prairie Pipe Line	$2Q	July 31, 24	1,135	102½	104	102	102½	— ¼
218½	161	230	175	4,000,000	100	Solar Refining Co	$5 S.A.	June 20, 24	100	185	186	183	183	+2½
116	87	100	87	10,000,000	100	Southern Pipe Line Co	$2Q	Sept. 2, 24	380	88	89½	84	84¾	—2¼
195	100	171	117	20,000,000	100	South Penn Oil Co	.....	Sept. 30, 22	.....	.....	.....	.....	.....	.....
88¾	66½	89	72	3,500,000	100	Southwest Pa. Pipe Lines	$2Q	Oct. 1, 24	90	76½	76½	†72	72	—4
69¾	49¼	68¾	54¼	221,706,668	25	S. O. Indiana	62½cQ	Sept. 15, 24	22,400	56¼	56½	55½	55¾	— ⅜
57⅛	36½	50¼	32½	8,000,000	25	S. O. Kansas	.....	June 16, 24	1,900	33¼	33¾	32½	33	—1
133	80	120	101	16,784,047	25	S. O. Kentucky	$1Q	Oct. 1, 24	4,100	117¾	117	115½	115½	—1¼
285	186	256½	198	3,000,000	100	S. O. Nebraska	$5S. A.	June 30, 24	50	240	240	232	232	—12
48¾	35¼	55¾	37¾	225,324,650	25	S. O. New York	35cQ	Sept. 15, 24	6,500	39¼	39⅜	39	39¼	— ¼
320	270	336	275	14,000,000	100	S. O. Ohio	$2½Q	Oct. 1, 24	180	295	317	295	315	+21
118	116	125½	116	7,000,000	100	do pfd	$1¾Q	Sept. 2, 24	30	118	118	117	117	— ¼
39	21	31	34	1,722,931	100	Swan & Finch	.....	Nov. 1, 19	40	40	40	39	39	—3½
58¾	35¼	69¼	56¾	61,523,075	25	Vacuum Oil Co	50cQ	Sept. 20, 24	27,000	70½	73¾	69¼	72¼	+1¾
28	19	30	25½	100,000	10	Washington Oil Co	.....	Jan. 31, 22	.....	.....	.....	.....	.....	.....

Barrel Flanges That Combine Low Cost and High Quality

Made of pressed steel.

Low welding cost.

Tight seal.

Flange flush with barrel shell.

Gasket surface smooth and flat.

Made in ¾", 1½" and 2" sizes.

Standard thread as used by all barrel manufacturers.

Write us for prices.

THE BETTCHER STAMPING & MFG. COMPANY

Cleveland **Ohio**

42 Years Scientific Refining

H. B. S. MOTOR OILS

A high grade product

WRITE OR WIRE
- FOR SAMPLES -
AND QUOTATIONS

The National Refining Co.

National Headquarters: National Bldg.

Cleveland, Ohio

New York Curb Bonds

Week Ended Oct. 3

	High	Low	Last	Ch'ge
Anglo-Amer 7½s	102	101⅞	101⅞	— ⅛
Cities Serv 7s C	98¾	98	98¾	— ¼
do 7s D	97	96¼	97	+ ¼
Gen Pet 6s	100¾	100⅝	100¾	+ ⅛
Gulf Oil 5s	98⅛	98	98	0
Phillips Pet 7½s w w	104	103¾	104	.....
Pure Oil 6½s	95¾	95¼	95¼	— ⅜
Skelly Oil 6½s	100½	100⅜	100⅝	— ⅜
S O New York 7s '25	101	100⅞	101	— ⅛
do 7s '26	105¾	105½	105¾	— ¾
do 7s '27	105¾	105¾	105¾	+ ¼
do 7s '28	105¾	105½	105¾	+ ¼
do 7s '29	106	105¾	105¾	— ¼
do 7s '30	106¼	105¾	106	— ⅜
do 7s '31	106¼	105¾	106¼	+ ¼
do 6½s	108	107⅝	108	+ ¼
Tidal Osage 7s	104¼	104	104¼	— ¼
Union Oil Cal 6s '.5	101¼	101	101¼	+ ¼
do 6s '26	101½	101½	101½	— ½
United Oil Prod 8s	32	32	32	—2
Vacuum Oil 7s	107	106⅝	107	+ ¾

New York Bonds

Week Ended Oct. 4

	High	Low	Last	Ch'ge
Atlantic Refg. deb 5s	98	98	98	0
Barnsdall Corp 8s	104	102½	103¾	+1¾
California Pet sf 6½s	101	100⅝	100¾	+ ⅛
Empire G & F 7½s	97	96	97	+ ⅜
Humble O & R 5½s	100⅜	100⅛	100¼	+ ⅛
Marland 7½s ser B	103⅝	103½	103⅝	+ ⅛
Mex Pet of Del cvt 8s	106	106	106	+ ¾
Pan-Amer P & T 7s	104⅞	104⅜	104½	0
Pierce Oil deb 8s	101¼	100½	101½	+ ¾
Prod & Refnrs 8s	110⅛	110	110⅛	+ ⅛
Sinclair Con col 7s	90	88⅛	88⅛	—1⅞
do 6½s	84¼	83¼	83¼	—1
Sinclair Crude 6s	101	100½	100⅞	— ⅛
do 5½s	100⅜	100⅛	100⅛	— ⅛
Sinclair Pipe L sf 5s	84	83½	83⅜	— ⅛
Tidewater Oil 6½s	103¾	103¼	103¼	— ⅛
Union Oil of Calif 6s	102½	100	100	—2½
Union Tank Car 7s	105	104¾	104¼	— ¾

New York Curb Market

1923 High	1923 Low	1924 High	1924 Low	Par Value	Stocks	Transactions Week Ended Oct. 3 Sales	First	High	Low	Last	Ch'ge
10	4¼	7	4¼	10	Ark. Nat. Gas	400	4⅜	4⅜	4¼	4¼	— ⅛
1½	.65	1⅝	.75	1	Boston & Wyo	2,200	.85	.85	.80	.80	—7
7⅜	3⅛	6⅜	3⅛	25c	Carib. Synd	7,300	3⅛	3⅛	2¾	2¾	— ⅜
195	128	155	132	100	Cities Service	760	142½	143	141½	143	—1
70	64¼	76¾	67¾	100	do pfd	1,400	76⅜	*76¾	76⅜	76¾	+ ⅜
6⅜	5⅞	7⅛	6⅜	10	do pfd. B	1,000	7⅛	7⅛	7⅛	7⅛	0
19½	12¾	16	13¾	10	do Bkrs. Sh	1,800	14¼	14⅜	14⅛	14¼	— ⅛
7⅜	1½	9¼	2⅛	N.P.	Creole Synd	12,100	8¼	8½	8	8¼	+ ⅛
18¾	5	8	8	N.P.	Derby O. & R	100	3	3	3	3	0
49½	22	84¾	17⅜	N.P.	do pfd	.....	.....	.....	.....	.....	.....
1	.10	.60	.12	5	Federal Oil	2,000	.38	.39	.33	.39	+1
2⅛	.23	.60	.23	10	Glenrock Oil	.....	.....	.....	.....	.....	.....
68¾	45¾	65	56¾	25	Gulf Oil Corp	2,800	60	60	58¾	58¾	—1⅛
9⅛	1	2⅛	.37	N.P.	Gulf State O.& R	.....	.....	.....	.....	.....	.....
4	1⅜	2⅜	1¼	N.P.	Kirby Petroleum	200	1½	1½	1½	1½	— ⅛
.....	.....	5¾	2⅜	N.P.	Lago Petroleum	20,500	5	5⅛	4¾	4⅞	0
5¼	1½	4⅞	2	N.P.	Marland of Mexico	.....	.....	.....	.....	.....	.....
20¼	12⅞	20	16	10	Mountain Prod	11,200	19⅞	*20	19¼	19¼	— ½
15¼	12¾	.....	.....	5	Mutual Oil Co	.....	.....	.....	.....	.....	.....
15⅝	8¾	14	9⅝	5	do cfts	18,200	11	11	10⅞	11	+ ⅛
6⅜	3½	6¼	4⅛	5	New Bradford	3,600	4⅝	4⅞	4⅝	4¾	+ ⅛
52	15¾	44	20	10	New England Fuel	900	22	22½	20	20	—2
21¾	5	14	8¾	25	New York Oil	.....	.....	.....	.....	.....	.....
1	.45	.80	.50	10	Omar O. & G	.....	.....	.....	.....	.....	.....
13	¾	3½	1	N.P.	Peer Oil Corp	600	1	1	1	1	0
14¾	9¾	17¾	12¼	10	Pennok Oil	30,500	17½	17¾	16⅝	16⅞	— ⅛
.....	.....	57¾	53¾	25	Red Bank Oil	12,200	35⅝	39	31½	37	—3
6⅞	2	5¾	3½	N.P.	Ryan Consolidated	.....	.....	.....	.....	.....	.....
14	6¼	10⅝	7⅛	10	Salt Creek Cons	700	7¼	7¾	7½	7¾	+ ⅛
25¾	15¾	27½	19¾	10	Salt Creek Prod	19,900	26⅛	*27½	26	26	— ½
4⅞	.75	2½	.80	5	Sapulpa Refining	300	1¾	1 11/16	1¾	1 11/16	+ 1/16
4	.65	1½	.30	5	Seaboard O. & G	.....	.....	.....	.....	.....	.....
13½	6	16	8	10	Tidal Osage	.....	.....	.....	.....	.....	.....
.....	.....	139	132	100	Union of California	400	132	132¼	132	132	0
10⅞	4	8⅜	4⅝	5	Wilcox O. & G	3,400	4⅞	4⅞	4⅞	4⅞	+ ⅛
.....	.....	13⅜	7	N.P.	Woodley Petroleum	13,000	10	11½	9¾	10¾	+ ¾

Pittsburgh Stock Exchange

1923 High	1923 Low	1924 High	1924 Low	Par Value	Stocks	Transactions Week Ended Oct. 3 Sales	First	High	Low	Last	Ch'ge
10	4¼	7	4⅛	10	Ark. Nat. Gas	905	4½	4½	†4⅛	4⅛	— ⅛
33⅜	33	40⅛	35⅜	N.P.	Columbia Gas	.....	.....	.....	.....	.....	.....
.....	.....	30	30	25	Fayette County Gas	.....	.....	.....	.....	.....	.....
27	22¾	30	26⅜	25	Lone Star Gas	335	29¼	29¼	29	29¼	0
58	51	60	51	50	Manuf. L. & H	4,520	58¾	59¾	x58	59⅝	+ ⅛
.....	.....	30	28½	25	OhioFuelCorp. (W.I.)	18,553	29¼	*30	28¾	29⅜	+ ⅛
19	11	16⅜	11¼	1	Ohio Fuel Oil	10	13	13	13	13	0
66	30¾	39¼	31⅜	25	Ohio Fuel Supply	1,151	37	37¼	x36	37	0
24	18¾	27½	22¾	25	Okla. Nat. Gas	795	26½	26½	26	26½	— ⅛
10½	5¾	9¾	6	5	Pittsburgh O. & G	.....	.....	.....	.....	.....	.....
14	5⅜	10⅜	7	10	Salt Creek Cons	2,520	7¼	7⅜	7¼	7¾	+ ⅜
13⅜	7	16⅜	9⅜	10	Tidal Osage	30	10	10	10	10	0
.....	.....	92	92	100	do pfd	.....	.....	.....	.....	.....	.....
29½	28¾	35	27¾	25	Union Nat. Gas	2,607	34	*35	x34	34⅞	+ ⅜
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Pittsburgh Curb Market

1923 High	1923 Low	1924 High	1924 Low	Par Value	Stocks	Transactions Week Ended Oct. 3 Sales	First	High	Low	Last	Ch'ge
.....	.....	2½	2½	N.P.	Arkansas Fuel w.i	.....	.....	.....	.....	.....	.....
1½	.22	.76	.20	5	Colombia Synd	.....	.....	.....	.....	.....	.....
2¾	.26	.70	.30	5	Duquesne Oil	.....	.....	.....	.....	.....	.....
37	10	9½	5⅜	10	Forest Oil	20	7½	7½	7½	7½	.....
1¼	1	.15	.15	1	Grant Oil	.....	.....	.....	.....	.....	.....
68	46½	64¼	57	25	Gulf Oil Corp	.....	.....	.....	.....	.....	.....
.03	.02	.....	.....	1	Homer Union	.....	.....	.....	.....	.....	.....
24½	16⅛	21	21	N.P.	International Pet	.....	.....	.....	.....	.....	.....
.....	.....	4½	4½	N.P.	Lago Petroleum	.....	.....	.....	.....	.....	.....
8½	4	6	5	10	Marshall Oil	.....	.....	.....	.....	.....	.....
.36	.15	.39	.01	1	Mex. Wyoming	.....	.....	.....	.....	.....	.....
.....	.....	18	18	10	Mountain Prod	.....	.....	.....	.....	.....	.....
.....	.....	30	29½	$25	Ohio Fuel Corp	.....	.....	.....	.....	.....	.....
2½	1⅜	2⅞	1⅜	1	Oklahoma Eastern	100	1⅞	1⅞	1⅞	1⅞	0
2	.60	.77	.45	10	Omar O. & G	.....	.....	.....	.....	.....	.....
22½	7	8	5½	5	States Oil	.....	.....	.....	.....	.....	.....
.....	.....	14	10	10	Tidal-Osage, N. V	.....	.....	.....	.....	.....	.....

*New High †New Low x Ex Dividend